DMX REFERENCE

Beam Wash Bee Eyes 7x40W

Grace



Manufacturer	Grace
GDTF file	Grace_Beam_Wash_Bee_Eyes_7x40W_88862.gdtf
GDTF revision	35 Ch Mode finish 3 · 2025-03-09
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1 About this manual

This document describes the Beam Wash Bee Eyes 7x40W by Grace. It was compiled from the GDTF file Grace_Beam_Wash_Bee_Eyes_7x40W_88862.gdtf from the GDTF-Share library.

File revision: “35 Ch Mode finish 3”.

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 Grace; 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	13 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
23 CH	23	22	1, 24, 47, 70, ...
35CH	21	24	1, 22, 43, 64, ...

No light? Check these channels

- 23 CH: CH 8 Dimmer above 0; CH 9 Shutter at 104–107, 208–212 or 253–255 “Open”
- 35CH: CH 12 Dimmer above 0


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

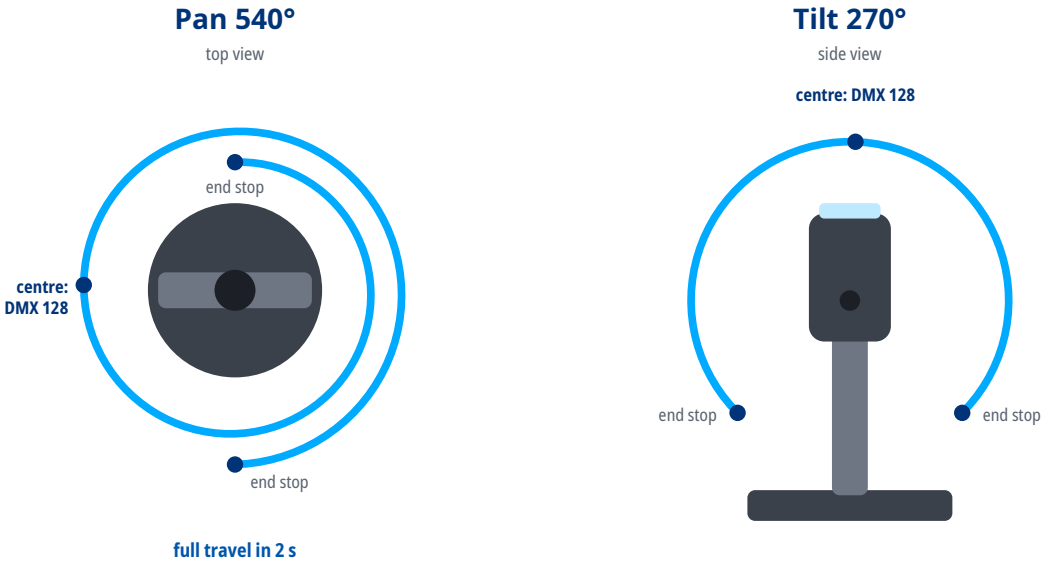
- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them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



Full-travel times as stated in the GDTF file.

5 Installation

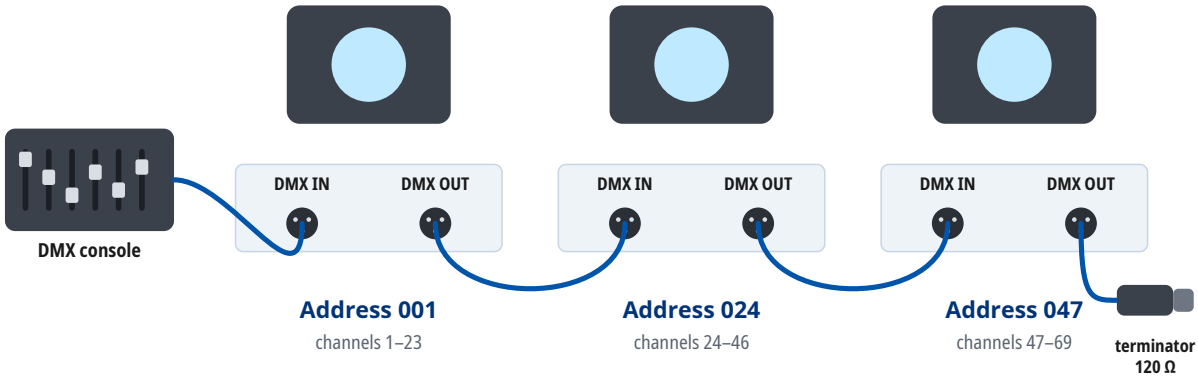
⚠ WARNING

- 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: 13 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 23 CH: every unit occupies 23 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

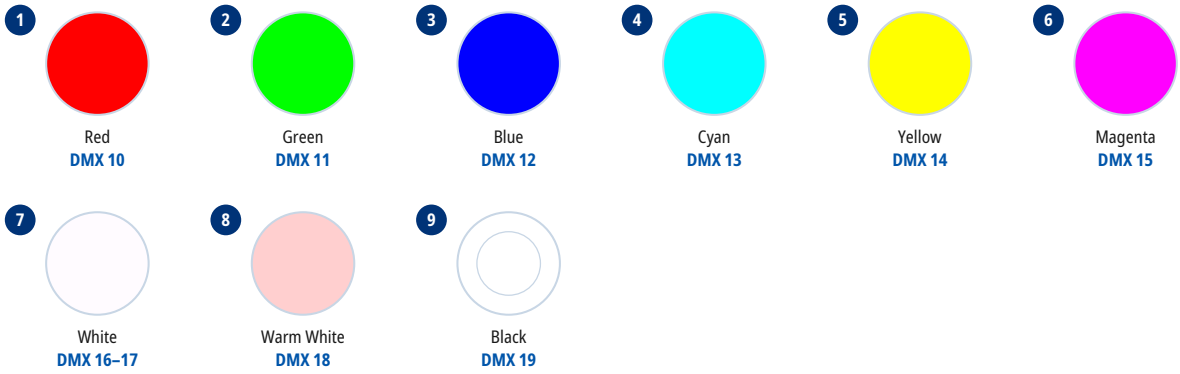
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “23 CH”: 23.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “23 CH”, you can use, for example, the start addresses 1, 24, 47, 70.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

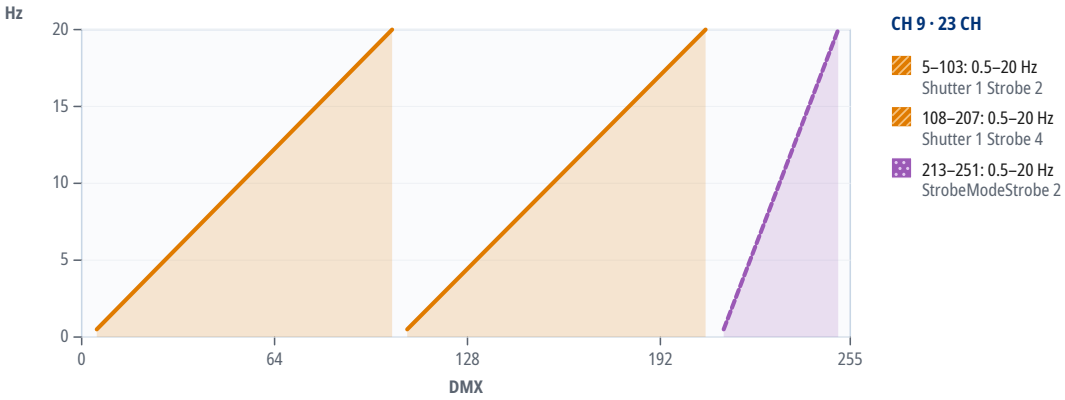
Functions in each DMX mode

	23 CH 23 channels	35CH 21 channels
Pan / Tilt	1, 3	14, 16
Dimmer	8	12
Dimmer resolution	8 bit	16 bit
Shutter / strobe	9	
Color mixing	10–13, 19–22	4× (1–7)
Color temperature	14	9
Color wheel	15	
Gobo wheel	16, 17	
Gobo rotation	18	
Prism	7	21
Zoom	6	20
Effects / macros		10

Gobo wheel

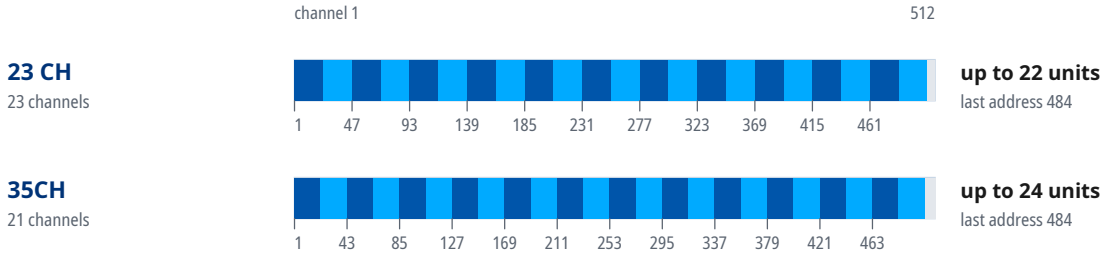


Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “23 CH”

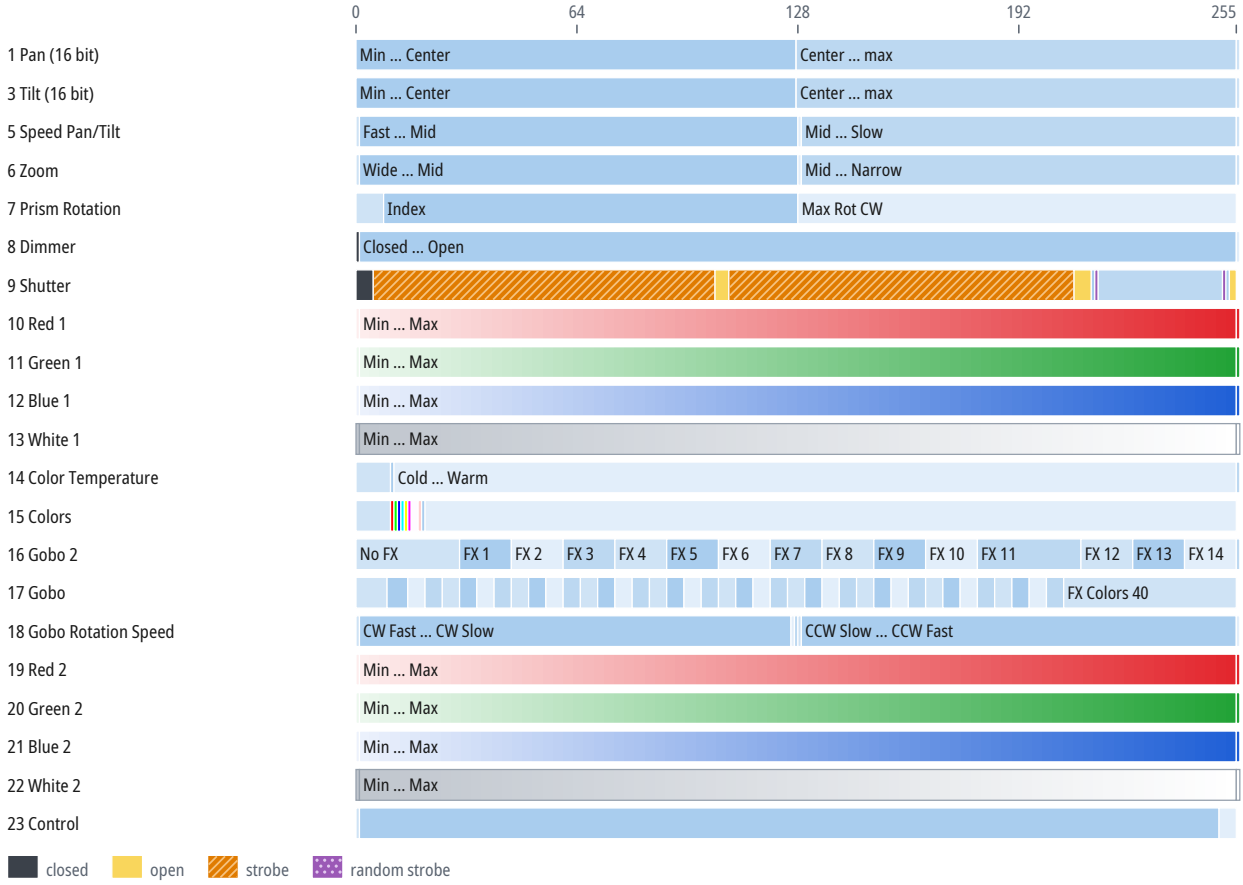
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	116	11	231	16	346
2	24	7	139	12	254	17	369
3	47	8	162	13	277	18	392
4	70	9	185	14	300	19	415
5	93	10	208	15	323	20	438

Mode 23 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 8 Dimmer above 0; CH 9 Shutter at 104–107, 208–212 or 253–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 8 Dimmer 255, CH 9 Shutter 255, CH 10 Red 1 255, CH 11 Green 1 255, CH 12 Blue 1 255, CH 13 White 1 255, CH 14 Color Temperature 0, CH 15 Colors 0, CH 19 Red 2 255, CH 20 Green 2 255, CH 21 Blue 2 255, CH 22 White 2 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Min ... Center
		128–255	Center ... max
		255	Max
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Min ... Center
		128–255	Center ... max
		255	Max
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0	Fast
		1–127	Fast ... Mid
		128	Mid
		129–254	Mid ... Slow

CH	Function	DMX	Description
5	Speed Pan/Tilt (continued)	255	Slow
6	Zoom	0	Wide
		1–127	Wide ... Mid
		128	Mid
		129–254	Mid ... Narrow
		255	Narrow
7	Prism Rotation	0–7	Beam
		8–127	Index
		128–255	Max Rot CW (up to 573 °/s (95 rpm))
8	Dimmer	0	Closed
		1–254	Closed ... Open
		255	Open
9	Shutter	0–4	Shutter 1: Closed
		5–103	Shutter 1 Strobe 2 (0.5–20 Hz)
		104–107	Shutter 1: Open
		108–207	Shutter 1 Strobe 4 (0.5–20 Hz)
		208–212	Shutter 1: Open
		213	Strobe Mode Strobe 2
		214	Str Min
		215–250	Str Min ... Str Max
		251	Str Max
		252	Shutter 1 7
		253–255	Shutter 1: Open
10	Red 1		Color RGB_R 1
		0	Min
		1–254	Min ... Max
		255	Max
11	Green 1		Color RGB_Green 1
		0	Min
		1–254	Min ... Max
		255	Max
12	Blue 1		Color RGB_Blue 1
		0	Min
		1–254	Min ... Max
		255	Max
13	White 1	0	Min
		1–254	Min ... Max
		255	Max
14	Color Temperature	0–9	RGBW ColorMix
		10	Cold
		11–254	Cold ... Warm
		255	Warm

CH	Function	DMX	Description
15	Colors	0–9	RGBW Mix
		10	Red
		11	Green
		12	Blue
		13	Cyan
		14	Yellow
		15	Magenta
		16–17	White
		18	Warm White
		19	Black
		20–255	Color 1 1
16	Gobo 2		Effects 2 1
		0–29	No FX
		30–44	FX 1
		45–59	FX 2
		60–74	FX 3
		75–89	FX 4
		90–104	FX 5
		105–119	FX 6
		120–134	FX 7
		135–149	FX 8
		150–164	FX 9
		165–179	FX 10
		180–209	FX 11
		210–224	FX 12
		225–239	FX 13
		240–254	FX 14
		255	FX 15
17	Gobo		Effects 1 1
		0–8	No FX
		9–14	FX 1
		15–19	FX 2
		20–24	FX 3
		25–29	FX 4
		30–34	FX 5
		35–39	FX 6
		40–44	FX 7
		45–49	FX 8
		50–54	FX 9
		55–59	FX 10
		60–64	FX 11
		65–69	FX 12

CH	Function	DMX	Description
17	Gobo (continued)	70–74	FX 13
		75–79	FX 14
		80–84	FX 15
		85–89	FX 16
		90–94	FX 17
		95–99	FX 18
		100–104	FX 19
		105–109	FX 20
		110–114	FX 21
		115–119	FX 22
		120–124	FX 23
		125–129	FX Colors 24
		130–134	FX Colors 25
		135–139	FX Colors 26
		140–144	FX Colors 27
		145–149	FX Colors 28
		150–154	FX Colors 29
		155–159	FX Colors 30
		160–164	FX Colors 31
		165–169	FX Colors 32
		170–174	FX Colors 33
		175–179	FX Colors 34
		180–184	FX Colors 35
		185–189	FX Colors 36
		190–194	FX Colors 37
		195–199	FX Colors 38
		200–204	FX Colors 39
		205–255	FX Colors 40
18	Gobo Rotation Speed		Effects 1 Rate 1
		0	CW Fast
		1–125	CW Fast ... CW Slow
		126	CW Slow
		127	Stop
		128	CCW Slow
		129–254	CCW Slow ... CCW Fast
		255	CCW Fast
19	Red 2		Color RGB_Red 1
		0	Min
		1–254	Min ... Max
		255	Max
20	Green 2		Color RGB_Green 1
		0	Min

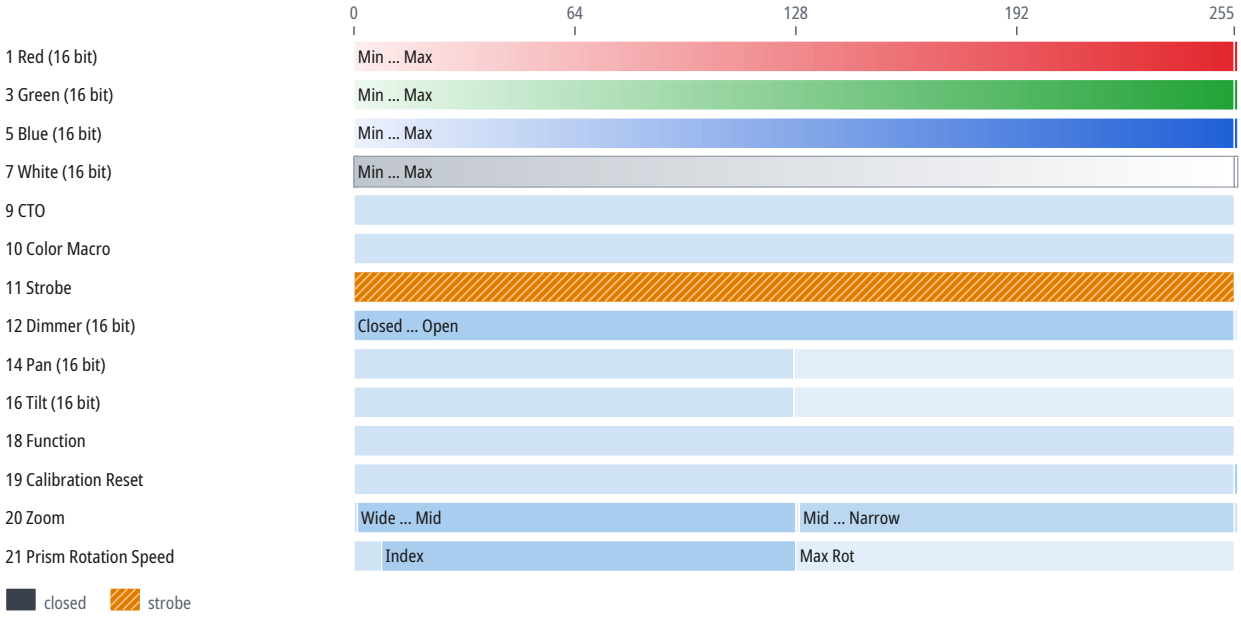
CH	Function	DMX	Description
20	Green 2 (continued)	1–254	Min ... Max
		255	Max
21	Blue 2		Color RGB_Blue 1
		0	Min
		1–254	Min ... Max
		255	Max
22	White 2	0	Min
		1–254	Min ... Max
		255	Max
23	Control	0	Default
		1–249	Control 1 1
		250–255	Global Reset (3sec)

Mode 35CH

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 12 Dimmer above 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Red	0–255	Min ... Max
		255	Max
2	Red Fine	0–255	Fine adjustment of CH 1
3	Green	0–255	Min ... Max
		255	Max
4	Green Fine	0–255	Fine adjustment of CH 3
5	Blue	0–255	Min ... Max

CH	Function	DMX	Description
5	Blue (continued)	255	Max
6	Blue Fine	0–255	Fine adjustment of CH 5
7	White	0–255	Min ... Max
		255	Max
8	White Fine	0–255	Fine adjustment of CH 7
9	CTO	0–255	
10	Color Macro	0–255	
11	Strobe	0–255	
12	Dimmer	0–255	Closed ... Open
		255	Open
13	Dimmer Fine	0–255	Fine adjustment of CH 12
14	Pan	0–127	Pan 1
		128	Center
		128–255	Pan 1
15	Pan Fine	0–255	Fine adjustment of CH 14
16	Tilt	0–127	Tilt 1
		128	Center
		128–255	Tilt 1
17	Tilt Fine	0–255	Fine adjustment of CH 16
18	Function	0–255	
19	Calibration Reset	0–254	Fixture Calibration Reset 1
		255	Reset
20	Zoom		Same as CH 6 in the mode “23 CH” (p. 10)
21	Prism Rotation Speed	0–7	Beam
		8–127	Index
		128–255	Max Rot (up to 573 °/s (95 rpm))

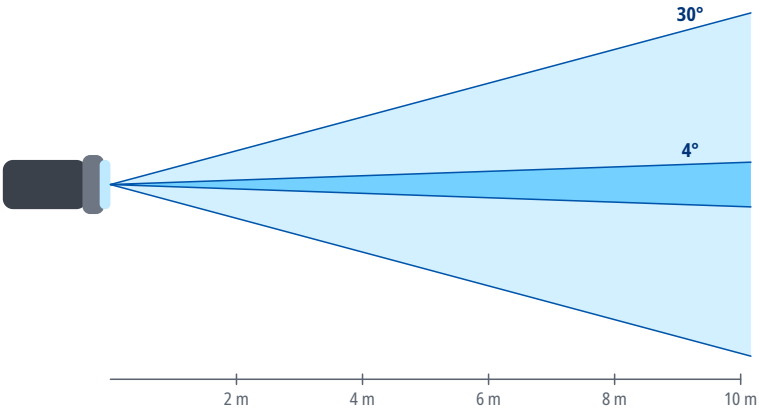
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	480 W
Luminous flux	5,600 lm
Color temperature	6,000 K
Color rendering index (CRI)	100
Optics	
Zoom	4–30°
Movement	
Pan	540°
Tilt	270°
Dimensions and construction	
Weight	13 kg
Operating environment	
Operating temperature	0 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2800–8500 K
Strobe frequency	0.5–20 Hz
Gobo rotation	up to 573 °/s (95 rpm)
Prism rotation	up to 573 °/s (95 rpm)

Spot diameter



Distance	Ø 4°	Ø 30°
2 m	0.14 m	1.1 m
4 m	0.28 m	2.1 m
6 m	0.42 m	3.2 m
8 m	0.56 m	4.3 m
10 m	0.7 m	5.4 m
15 m	1 m	8 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.