DMX REFERENCE

Light Beam 370

Leding

Manufacturer	Leding
GDTF file	Leding_Light_Beam_370_116069.gdtf
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1 About this manual

This document describes the Light Beam 370 by Leding. It was compiled from the GDTF file Leding_Light_Beam_370_116069.gdtf from the GDTF-Share library.

File revision: “v002”.

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 Leding; 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	22 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode1	19	26	1, 20, 39, 58, ...
Mode 2	12	42	1, 13, 25, 37, ...

No light? Check these channels

- Mode1: CH 13 Shutter at 32–63 “open” or 96–127 or 128–143 or 160–191 or 224–255; CH 14 Dimmer above 1
- Mode 2: CH 10 Shutter at 32–63 “open” or 96–127 or 128–143 or 160–191 or 224–255; CH 11 Dimmer above 1


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.

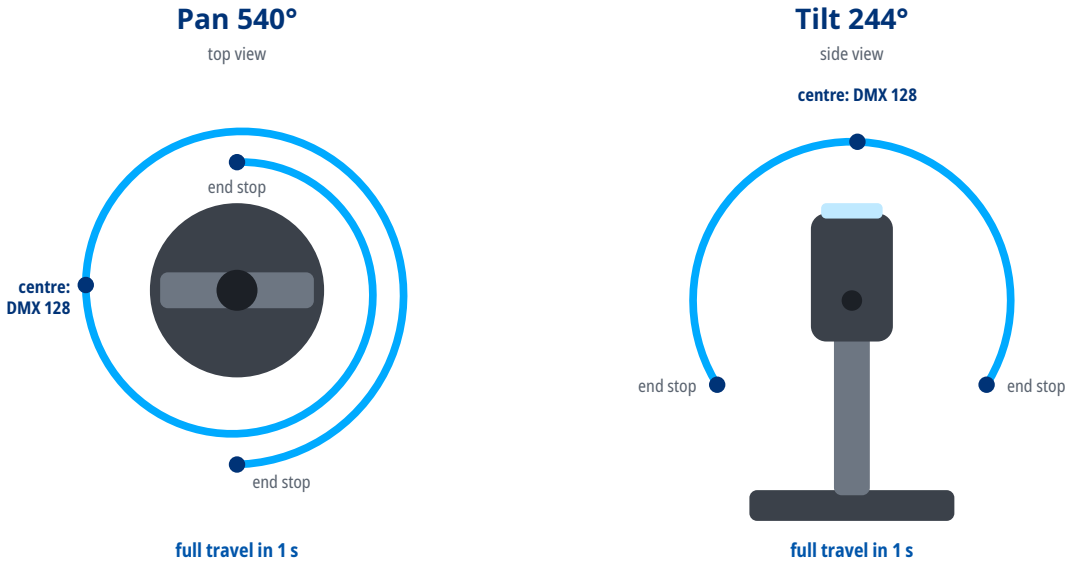
⚠ CAUTION

- 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.

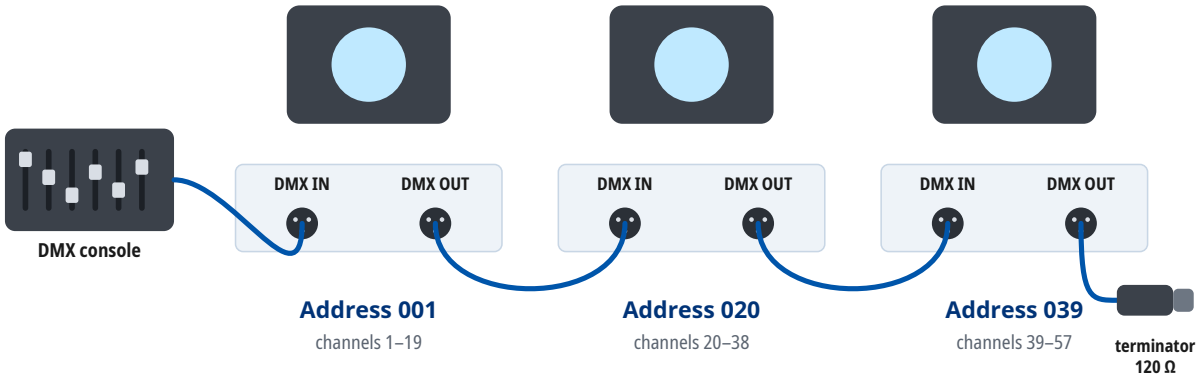
5 Installation

> ⚠ **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: 22 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



Mode1: every unit occupies 19 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 “Mode1”: 19.
- 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 “Mode1”, you can use, for example, the start addresses 1, 20, 39, 58.
- 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

	Mode1 19 channels	Mode 2 12 channels
Pan / Tilt	**1, 3**	**1, 2**
Pan / Tilt resolution	16 bit	8 bit
Dimmer	**14**	**11**
Dimmer resolution	16 bit	8 bit
Shutter / strobe	**13**	**10**
Color wheel	**5**	**3**
Gobo wheel	**6**	**4**
Prism	**8, 9**	**6, 7**
Frost	**10**	**8**
Focus	**11**	**9**

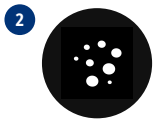
Color wheel

1. Color 1 Index: Open — **DMX 0–3**
2. Red — **DMX 4–13**
3. Blue — **DMX 14–22**
4. Yellow — **DMX 23–31**
5. Light Green — **DMX 32–40**
6. Magenta — **DMX 41–49**
7. Cyan — **DMX 50–58**
8. Dark Orange — **DMX 59–68**
9. Green — **DMX 69–77**
10. Amber — **DMX 78–86**
11. Light Blue — **DMX 87–95**
12. Dark Amber — **DMX 96–104**
13. CTO — **DMX 105–113**
14. UV — **DMX 114–123**

Gobo wheel



Gobo 1 Select Effects: open
DMX 0–3



Gobo 1 Select Effects: gobo 1
DMX 4–9



Gobo 1 Select Effects: gobo 2
DMX 10–15



Gobo 1 Select Effects: gobo 3
DMX 16–21



Gobo 1 Select Effects: gobo 4
DMX 22–27



Gobo 1 Select Effects: gobo 5
DMX 28–33



Gobo 1 Select Effects: gobo 6
DMX 34–39



Gobo 1 Select Effects: gobo 7
DMX 40–45



Gobo 1 Select Effects: gobo 8
DMX 46–51



Gobo 1 Select Effects: gobo 9
DMX 52–57



Gobo 1 Select Effects: gobo 10
DMX 58–63



Gobo 1 Select Effects: beam reducer 1
DMX 64–69



Gobo 1 Select Effects: beam reducer 2
DMX 70–75



Gobo 1 Select Effects: beam reducer 3
DMX 76–81



Reducer 4

Prism



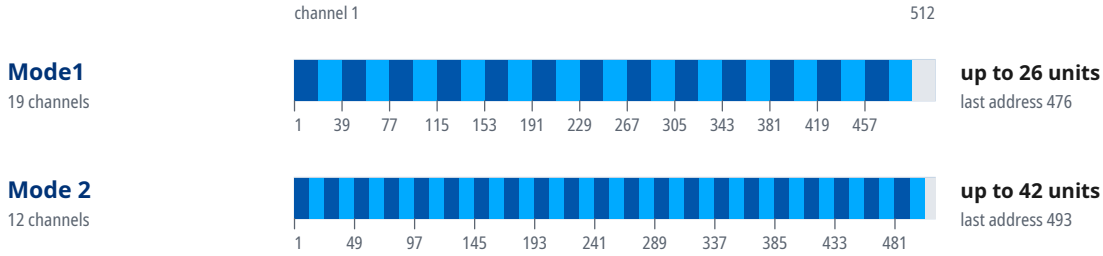
8 facets
8 facet



24 facets
24 facet

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Mode1”

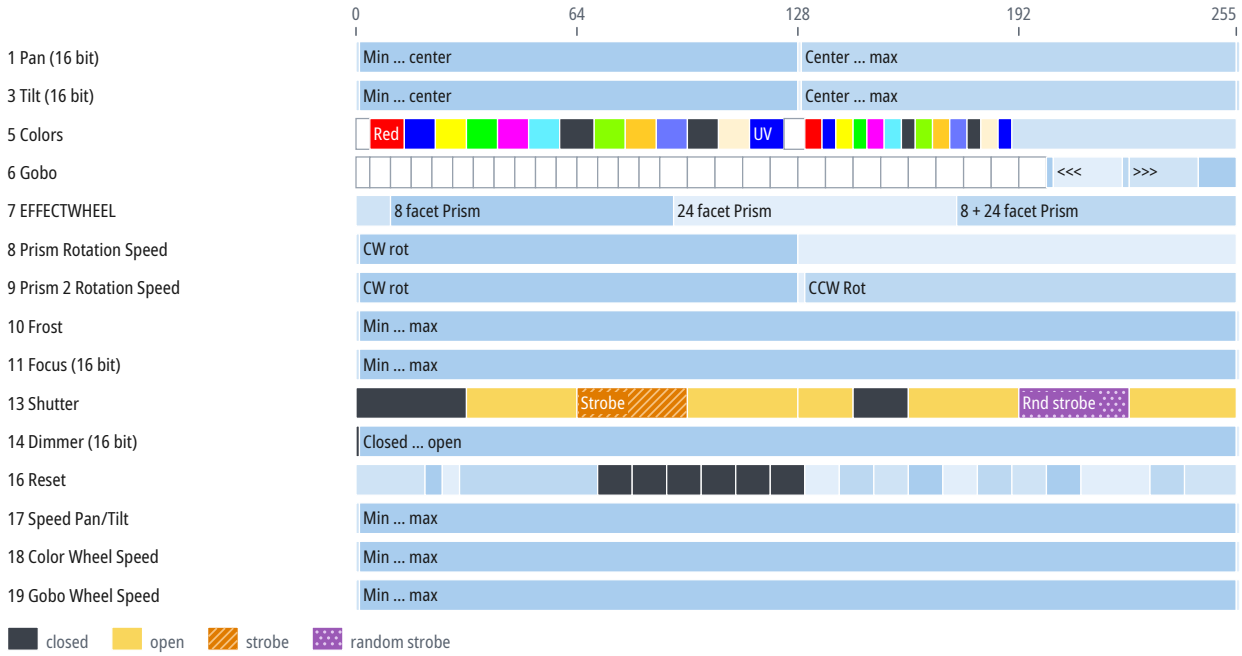
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	96	11	191	16	286
2	20	7	115	12	210	17	305
3	39	8	134	13	229	18	324
4	58	9	153	14	248	19	343
5	77	10	172	15	267	20	362

Mode1

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 13 Shutter at 32–63 “open” or 96–127 or 128–143 or 160–191 or 224–255; CH 14 Dimmer above 1. The GDTF file gives these values for a console's Highlight function: CH 14 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–1	Min
		1–128	Min … center
		128–129	Center
		129–255	Center … max
		255	Max
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–1	Min
		1–128	Min … center
		128–129	Center
		129–255	Center … max
		255	Max
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Colors	0–3	Color 1 Index: Open
		4–13	Red
		14–22	Blue
		23–31	Yellow
		32–40	Light Green
		41–49	Magenta
		50–58	Cyan
		59–68	Dark Orange
		69–77	Green
		78–86	Amber
		87–95	Light Blue
		96–104	Dark Amber
		105–113	CTO
		114–123	UV
		124–129	Color 1 Index: Open (1)
		130–134	Red (1)
		135–138	Blue (1)
		139–143	Yellow (1)
		144–147	Light Green (1)
		148–152	Magenta (1)
		153–157	Cyan (1)
		158–161	Dark Orange (1)
		162–166	Green (1)
		167–171	Amber (1)
		172–176	Light Blue (1)
		177–180	Dark Amber (1)
		181–185	CTO (1)
		186–189	UV (1)

CH	Function	DMX	Description
5	Colors (continued)	190–255	Color 1 Wheel Spin 3 (0–57.3 °/s)
6	Gobo	0–3	Gobo 1 Select Effects: open
		4–9	Gobo 1 Select Effects: gobo 1
		10–15	Gobo 1 Select Effects: gobo 2
		16–21	Gobo 1 Select Effects: gobo 3
		22–27	Gobo 1 Select Effects: gobo 4
		28–33	Gobo 1 Select Effects: gobo 5
		34–39	Gobo 1 Select Effects: gobo 6
		40–45	Gobo 1 Select Effects: gobo 7
		46–51	Gobo 1 Select Effects: gobo 8
		52–57	Gobo 1 Select Effects: gobo 9
		58–63	Gobo 1 Select Effects: gobo 10
		64–69	Gobo 1 Select Effects: beam reducer 1
		70–75	Gobo 1 Select Effects: beam reducer 2
		76–81	Gobo 1 Select Effects: beam reducer 3
		82–87	Gobo 1 Select Effects: open
		88–95	Gobo 1 Select Shake: gobo 1
		96–103	Gobo 1 Select Shake: gobo 2
		104–111	Gobo 1 Select Shake: gobo 3
		112–119	Gobo 1 Select Shake: gobo 4
		120–127	Gobo 1 Select Shake: gobo 5
		128–135	Gobo 1 Select Shake: gobo 6
		136–143	Gobo 1 Select Shake: gobo 7
		144–151	Gobo 1 Select Shake: gobo 8
		152–159	Gobo 1 Select Shake: gobo 9
		160–167	Gobo 1 Select Shake: gobo 10
		168–175	Gobo 1 Select Shake: beam reducer 1
		176–183	Gobo 1 Select Shake: beam reducer 2
		184–191	Gobo 1 Select Shake: beam reducer 3
		192–199	Gobo 1 Select Shake: open
		200–201	Gobo 1 Wheel Spin: open
		202–221	<<<
		222–223	Gobo 1 Wheel Spin: stop
		224–243	>>>
		244–255	Random
7	EFFECTWHEEL	0–9	Open
		10–91	8 facet Prism
		92–173	24 facet Prism
		174–255	8 + 24 facet Prism
8	Prism Rotation Speed	0	Prism 1 Pos Rotate 1
		1–127	CW rot

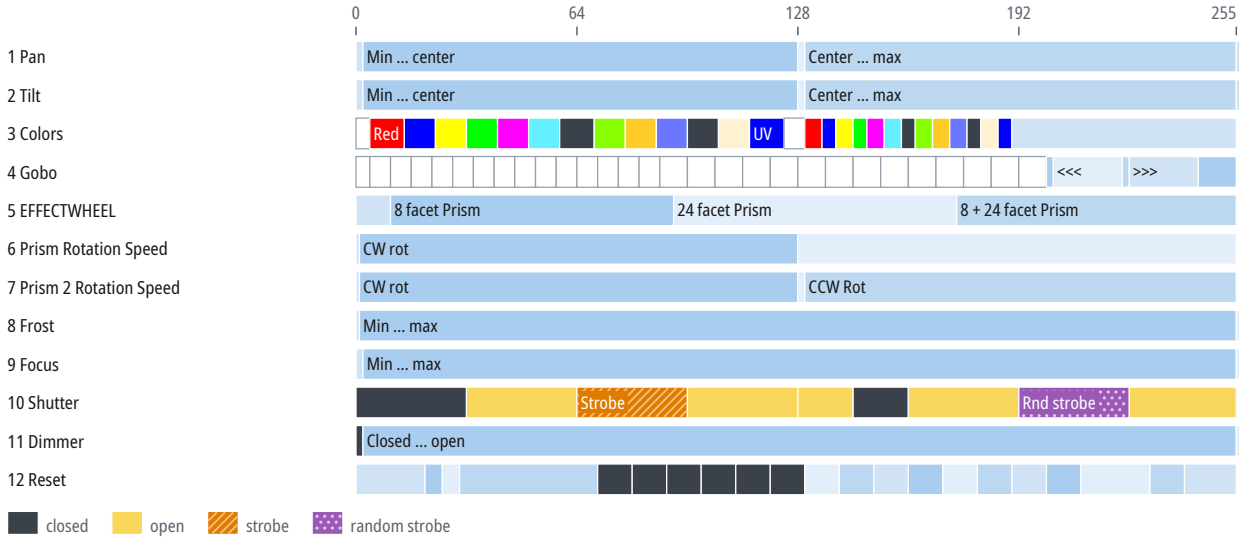
CH	Function	DMX	Description
8	Prism Rotation Speed (continued)	128–255	Prism 1 Pos Rotate 1
9	Prism 2 Rotation Speed	0	Prism 2 Pos Rotate 1
		1–127	CW rot
		128–129	Stop
		130–255	CCW Rot
10	Frost	0	Min
		1–254	Min ... max
		255	Max
11	Focus	0–1	Min
		1–255	Min ... max
		255	Max
12	Focus Fine	0–255	Fine adjustment of CH 11
13	Shutter	0–31	Shutter 1: closed
		32–63	Shutter 1: open
		64–95	Strobe
		96–127	Shutter 1: open (2)
		128–143	Open pulse
		144–159	Close pulse
		160–191	Shutter 1: open (3)
		192–223	Rnd strobe
		224–255	Shutter 1: open (4)
14	Dimmer	0–1	Closed
		1–255	Closed ... open
		255	Open
15	Dimmer Fine	0–255	Fine adjustment of CH 14
16	Reset	0–19	Fixture Global Reset 1
		20–24	Eco mode
		25–29	Standard mode
		30–69	Standard mode ... Blackout while pan/tilt
		70–79	Blackout while pan/tilt
		80–89	Disabled blackout while pan/tilt
		90–99	Blackout while colour
		100–109	Disabled blackout while colour
		110–119	Blackout while gobo
		120–129	Disabled blackout while gobo
		130–139	Lamp ON
		140–149	Pan/Tilt reset
		150–159	Colour system reset
		160–169	Gobo wheels reset
		170–179	Dimmer/Shutter
		180–189	Zoom/focus/prism reset

CH	Function	DMX	Description
16	Reset (continued)	190–199	Zoom/focus/prism reset ... Total reset
		200–209	Total reset
		210–229	Total reset ... Lamp Off
		230–239	Lamp Off
		240–255	Fixture Global Reset 1
17	Speed Pan/Tilt	0	Min
		1–254	Min ... max
		255	Max
18	Color Wheel Speed	0	Min
		1–254	Min ... max
		255	Max
19	Gobo Wheel Speed	0	Min
		1–254	Min ... max
		255	Max

Mode 2

If the device receives DMX in this mode but gives no light, check these channels: CH 10 Shutter at 32–63 “open” or 96–127 or 128–143 or 160–191 or 224–255; CH 11 Dimmer above 1. The GDTF file gives these values for a console's Highlight function: CH 11 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–1	Min
		2–127	Min ... center
		128–129	Center
		130–254	Center ... max
		255	Max
2	Tilt	0–1	Min
		2–127	Min ... center

CH	Function	DMX	Description
2	Tilt (continued)	128–129	Center
		130–254	Center ... max
		255	Max
3	Colors		Same as CH 5 in the mode “Mode1” (p. 10)
4	Gobo		Same as CH 6 in the mode “Mode1” (p. 11)
5	EFFECTWHEEL		Same as CH 7 in the mode “Mode1” (p. 11)
6	Prism Rotation Speed		Same as CH 8 in the mode “Mode1” (p. 11)
7	Prism 2 Rotation Speed		Same as CH 9 in the mode “Mode1” (p. 12)
8	Frost		Same as CH 10 in the mode “Mode1” (p. 12)
9	Focus	0–1	Min
		2–254	Min ... max
		255	Max
10	Shutter		Same as CH 13 in the mode “Mode1” (p. 12)
11	Dimmer	0–1	Closed
		2–254	Closed ... open
		255	Open
12	Reset		Same as CH 16 in the mode “Mode1” (p. 12)

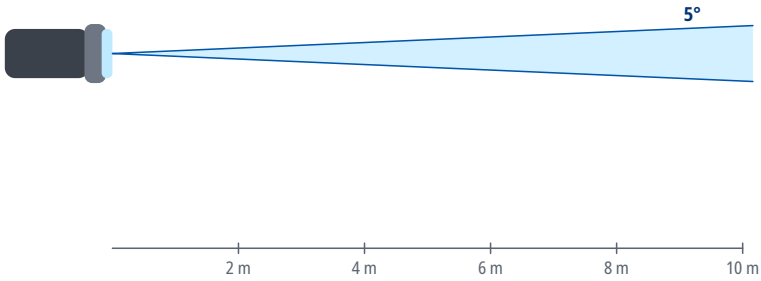
10 Technical specifications

Parameter	Value
Light	
Light source	discharge lamp
Lamp power	1,000 W
Luminous flux	20,000 lm
Color temperature	6,500 K
Color rendering index (CRI)	100
Optics	
Beam angle	5°
Movement	
Pan	540°
Tilt	244°
Dimensions and construction	
Weight	22 kg
Operating environment	
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Color wheel rotation	up to 57.3 °/s (9.5 rpm)
Gobo wheel rotation	up to 57.3 °/s (9.5 rpm)
Prism rotation	up to 57.3 °/s (9.5 rpm)
Prism rotation	up to 57.3 °/s (9.5 rpm)

Spot diameter



Distance	Ø 5°
2 m	0.17 m
4 m	0.35 m
6 m	0.52 m
8 m	0.7 m
10 m	0.87 m
15 m	1.3 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.
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.