DMX REFERENCE

XL 500 BEAM IP

ACME



Manufacturer	ACME
GDTF file	ACME_XL_500_BEAM_IP_169496.gdtf
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1 About this manual

This document describes the XL 500 BEAM IP by ACME. It was compiled from the GDTF file ACME_XL_500_BEAM_IP_169496.gdtf from the GDTF-Share library.

File revision: “XL 500 BEAM IP”.

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 ACME; 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	20 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode 1 29CH	31	16	1, 32, 63, 94, …

No light? Check these channels

- Mode 1 29CH: CH 26 Shutter at 8–15 “Open” or 132–139 or 182–189 or 232–239 or 248–255; CH 27 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.

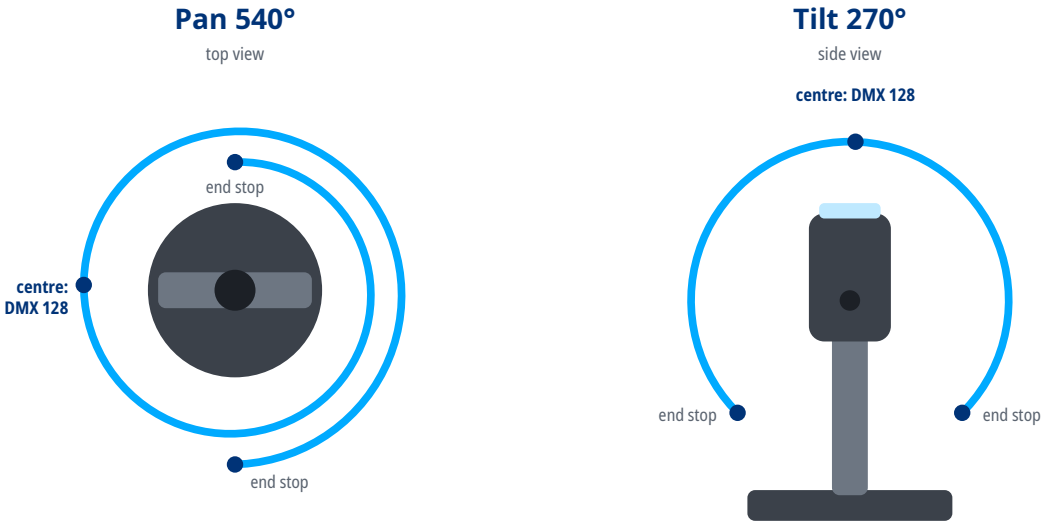
⚠ CAUTION

- 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



5 Installation

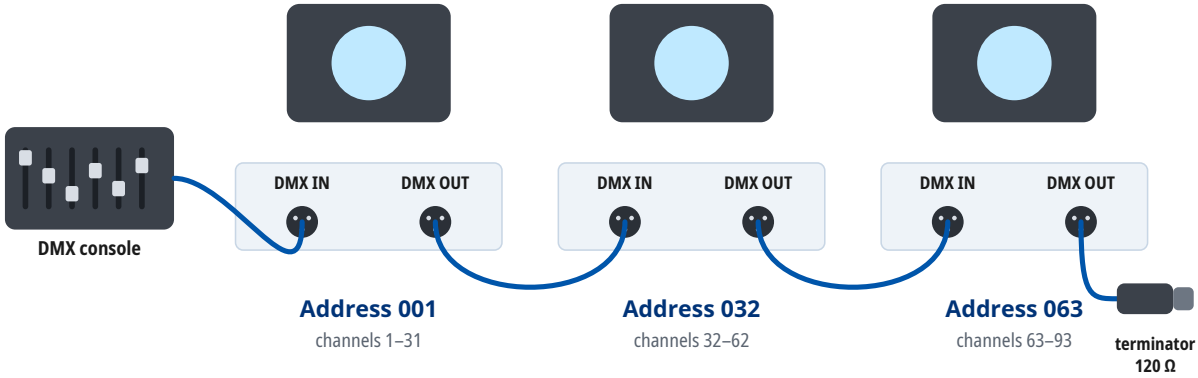
> ⚠ **WARNING**
>
> - Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
> - The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
> - Weight of the device: 20 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 1 29CH: every unit occupies 31 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

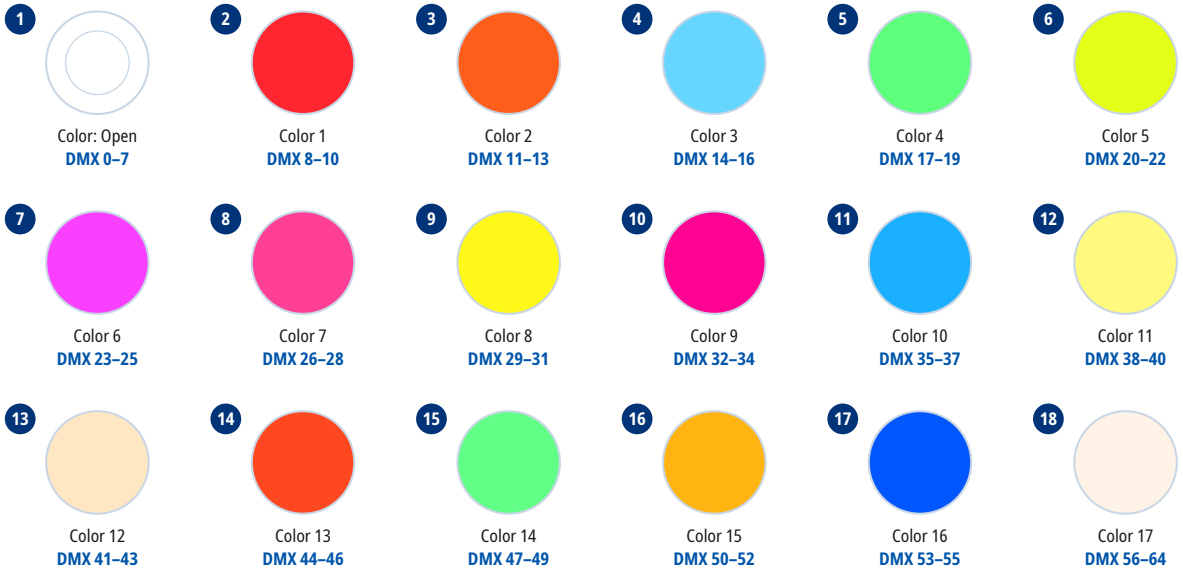
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Mode 1 29CH”: 31.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “Mode 1 29CH”, you can use, for example, the start addresses 1, 32, 63, 94.
- 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

	Mode 1 29CH 31 channels
Pan / Tilt	1, 3
Dimmer	27
Shutter / strobe	26
Color mixing	6, 8, 10
Color temperature	12
Color wheel	13
Gobo wheel	14, 17
Gobo rotation	15
Prism	18–20
Frost	21
Zoom	22
Focus	24

Color wheel



Gobo wheel

1

FIX Gobo: Open
DMX 0–7

2

Gobo 1
DMX 8–9

3

Gobo 2
DMX 10–11

4

Gobo 3
DMX 12–13

5

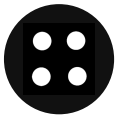
Gobo 4
DMX 14–15

6

Gobo 5
DMX 16–17

7

Gobo 6
DMX 18–19

8

Gobo 7
DMX 20–21

9

Gobo 8
DMX 22–23

10

Gobo 9
DMX 24–25

11

Gobo 10
DMX 26–27

12

Gobo 11
DMX 28–29

13

Gobo 12
DMX 30–31

14

Gobo 13
DMX 32–33

15

Gobo 14
DMX 34–35

16

Gobo 15
DMX 36–37

17

Gobo 16
DMX 38–39

18

Gobo 17
DMX 40–41

19

Gobo 18
DMX 42–43

20

Gobo 19
DMX 44–45

21

Gobo 20
DMX 46–47

22

Gobo 21
DMX 48–64

Prism

1

Open
DMX 0–8

2

8 facets
Prism 1
DMX 8–31

3

6 facets
Prism 2
DMX 32–63

4

4 facets
Prism 3
DMX 64–95

5

4 facets
Prism 4
DMX 96–127

6

32 facets
Prism 1+P 3
DMX 128–159

7

32 facets
Prism 1+P 4
DMX 160–191

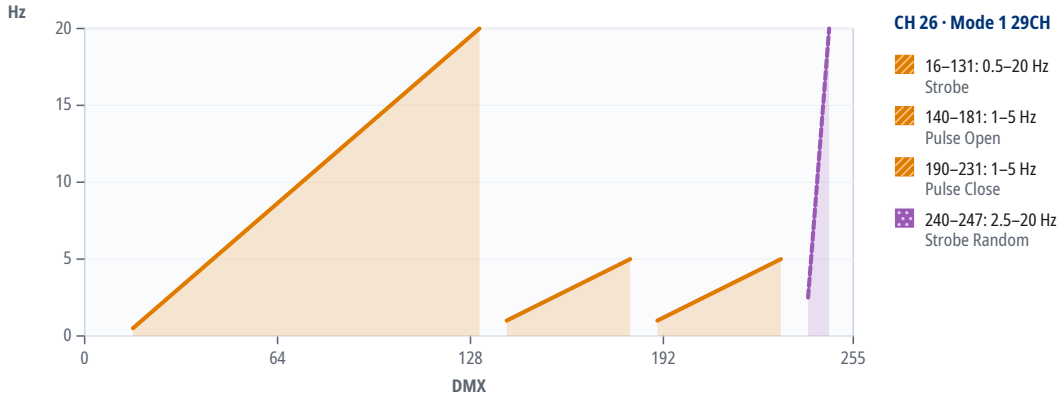
8

24 facets
Prism 2+P 3
DMX 192–223

9

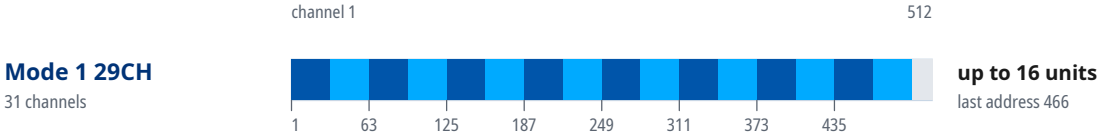
24 facets
Prism 2+P 4
DMX 224–255

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Mode 1 29CH”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	156	11	311	16	466
2	32	7	187	12	342	17	U2 · 1
3	63	8	218	13	373	18	U2 · 32
4	94	9	249	14	404	19	U2 · 63
5	125	10	280	15	435	20	U2 · 94

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.

RDM personalities

Mode	Channels	RDM personality
Mode 1 29CH	31	2

Mode 1 29CH

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 26 Shutter at 8–15 “Open” or 132–139 or 182–189 or 232–239 or 248–255; CH 27 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 26 Shutter 12, CH 27 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–255	540°
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–255	270°
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Cyan	0–255	
7	Cyan Fine	0–255	Fine adjustment of CH 6
8	Magenta	0–255	
9	Magenta Fine	0–255	Fine adjustment of CH 8
10	Yellow	0–255	
11	Yellow Fine	0–255	Fine adjustment of CH 10
12	CTO	0–255	6000–3200 K
13	Colors	0–7	Color: Open

CH	Function	DMX	Description
13	Colors (continued)	8–10	Color 1
		11–13	Color 2
		14–16	Color 3
		17–19	Color 4
		20–22	Color 5
		23–25	Color 6
		26–28	Color 7
		29–31	Color 8
		32–34	Color 9
		35–37	Color 10
		38–40	Color 11
		41–43	Color 12
		44–46	Color 13
		47–49	Color 14
		50–52	Color 15
		53–55	Color 16
		56–63	Color 17
		64–127	Index
		128	<<<
		129–158	<<< ... <<
		159	<<
		160–188	<< ... <
		189	<
		190–193	Stop
		194	>
		195–224	> ... >>
		225	>>
		226–254	>> ... >>>
		255	>>>
14	Gobo	0–7	Gobo: Open
		8–12	Gobo 1
		13–17	Gobo 2
		18–22	Gobo 3
		23–27	Gobo 4
		28–32	Gobo 5
		33–37	Gobo 6
		38–42	Gobo 7
		43–47	Gobo 8
		48–52	Gobo 9
		53–57	Gobo 10
		58–63	Gobo 11
		64–68	Gobo 1 shank

CH	Function	DMX	Description
14	Gobo (continued)	69–73	Gobo 2 shank
		74–78	Gobo 3 shank
		79–83	Gobo 4 shank
		84–88	Gobo 5 shank
		89–93	Gobo 6 shank
		94–98	Gobo 7 shank
		99–103	Gobo 8 shank
		104–108	Gobo 9 shank
		109–113	Gobo 10 shank
		114–127	Gobo 11 shank
		128	<<<
		129–158	<<< ... <<
		159	<<
		160–188	<< ... <
		189	<
		190–193	Stop
		194	>
		195–224	> ... >>
		225	>>
		226–254	>> ... >>>
		255	>>>
15	Gobo Rotation Speed	0–127	Index (360°)
		128–158	<<< ... <<
		159–189	<< ... <
		189	<
		190–193	Stop
		194–224	> ... >>
		225–255	>> ... >>>
		255	>>>
16	Gobo Rotation Speed Fine	0–255	Fine adjustment of CH 15
17	Gobo 2	0–7	FIX Gobo: Open
		8–9	Gobo 1
		10–11	Gobo 2
		12–13	Gobo 3
		14–15	Gobo 4
		16–17	Gobo 5
		18–19	Gobo 6
		20–21	Gobo 7
		22–23	Gobo 8
		24–25	Gobo 9
		26–27	Gobo 10
		28–29	Gobo 11

CH	Function	DMX	Description
17	Gobo 2 (continued)	30–31	Gobo 12
		32–33	Gobo 13
		34–35	Gobo 14
		36–37	Gobo 15
		38–39	Gobo 16
		40–41	Gobo 17
		42–43	Gobo 18
		44–45	Gobo 19
		46–47	Gobo 20
		48–63	Gobo 21
		64–66	Gobo 1 shank
		67–69	Gobo 2 shank
		70–72	Gobo 3 shank
		73–75	Gobo 4 shank
		76–78	Gobo 5 shank
		79–81	Gobo 6 shank
		82–84	Gobo 7 shank
		85–87	Gobo 8 shank
		88–90	Gobo 9 shank
		91–93	Gobo 10 shank
		94–96	Gobo 11 shank
		97–99	Gobo 12 shank
		100–102	Gobo 13 shank
		103–105	Gobo 14 shank
		106–108	Gobo 15 shank
		109–111	Gobo 16 shank
		112–114	Gobo 17 shank
		115–117	Gobo 18 shank
		118–120	Gobo 19 shank
		121–123	Gobo 20 shank
		124–127	Gobo 21 shank
		128	<<<
		129–158	<<< ... <<
		159	<<
		160–188	<< ... <
		189	<
		190–193	Stop
		194	>
		195–224	> ... >>
		225	>>
		226–254	>> ... >>>
		255	>>>

CH	Function	DMX	Description
18	Prism	0–7	Close: Open
		8–31	Prism 1
		32–63	Prism 2
		64–95	Prism 3
		96–127	Prism 4
		128–159	Prism 1+P 3
		160–191	Prism 1+P 4
		192–223	Prism 2+P 3
		224–255	Prism 2+P 4
19	Prism Rotation Speed	0–127	Index (360°)
		128	<<<
		129–158	<<< ... <<
		159	<<
		160–188	<< ... <
		189	<
		190–193	Stop
		194	>
		195–224	> ... >>
		225	>>
		226–254	>> ... >>>
		255	>>>
20	Prism 2 Rotation Speed	0–127	Index (360°)
		128	<<<
		129–158	<<< ... <<
		159	<<
		160–188	<< ... <
		189	<
		190–193	Stop
		194	>
		195–224	> ... >>
		225	>>
		226–254	>> ... >>>
		255	>>>
21	Frost	0–255	
22	Zoom	0–255	0.9–22°
23	Zoom Fine	0–255	Fine adjustment of CH 22
24	Focus	0–255	
25	Focus Fine	0–255	Fine adjustment of CH 24
26	Shutter	0–7	Closed
		8–15	Open
		16	Strobe: Min
		17–130	Strobe: Min ... Max

CH	Function	DMX	Description
26	Shutter (continued)	131	Strobe: Max
		132–139	Open 2
		140	Pulse Open: Min
		141–180	Pulse Open: Min ... Max
		181	Pulse Open: Max
		182–189	Open 3
		190	Pulse Close: Min
		191–230	Pulse Close: Min ... Max
		231	Pulse Close: Max
		232–239	Open 4
		240	Strobe Random: Min
		241–246	Strobe Random: Min ... Max
		247	Strobe Random: Max
		248–255	Open 5
27	Dimmer	0–255	
28	Dimmer Fine	0–255	Fine adjustment of CH 27
29	Pan Safety Zone	0–7	Null
		8–48	Mode Close
		49–89	Mode Open
		90–130	Set Start Pos
		131–171	Save Start Pos
		172–212	Set End Pos
		213–255	Save End Pos
30	Tilt Safety Zone	0–7	Null
		8–48	Mode Close
		49–89	Mode Open
		90–130	Set Start Pos
		131–171	Save Start Pos
		172–212	Set End Pos
		213–255	Save End Pos
31	Function	0–29	No Function 1
		30–39	Dim Square Law
		40–49	Dim Inv Square Law
		50–59	Dim Curve Linear
		60–69	Dim Curve S
		70–79	Auto
		80–89	Quiet
		90–99	Super Quiet
		100–109	Frequency Setting
		110–119	Frequency Disable
		120–122	No Function 2
		123	900Hz

CH	Function	DMX	Description
31	Function (continued)	124	1000Hz
		125	1100Hz
		126	1200Hz
		127	1300Hz
		128	1400Hz
		129	1500Hz
		130	2500Hz
		131	4000Hz
		132	5000Hz
		133	6000Hz
		134	10000Hz
		135	15000Hz
		136	20000Hz
		137	25000Hz
		138–139	LEDFrequency Mode: No Function
		140–149	PT Reset
		150–159	Eff Reset
		160–171	No Function 3
		172–173	Focus Compensate: Disable
		174–175	Near(10m)
		176–177	Medium(20m)
		178–179	Far(30m)
		180–181	Sun Protection Mode: On
		182–183	Sun Protection Mode: Off
		184–199	No Function 4
		200–209	All Reset
		210–219	Dimmer Speed: Fast
		220–229	Smooth
		230–231	Gobo Short Cut: Enable
		232–233	Gobo Short Cut: Disable
		234–235	Golor Short Cut: Enable
		236–237	Golor Short Cut: Disable
		238–239	Defog: On
		240–241	Defog: Off
		242	Defog: No Function
		243–244	No
		245–246	Yes
		247–255	Zoom Invert: No Function

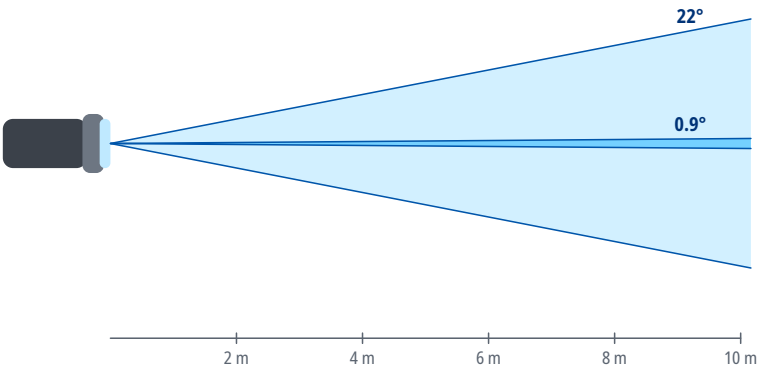
10 Technical specifications

Parameter	Value
Light	
Light source	discharge lamp
Lamp power	1,000 W
Luminous flux	10,000 lm
Color temperature	6,000 K
Color rendering index (CRI)	100
Optics	
Zoom	0.9–22°
Movement	
Pan	540°
Tilt	270°
Control	
RDM	yes (manufacturer ID 0x1369, device model ID 0x1369)
Dimensions and construction	
Weight	20 kg
Operating environment	
Operating temperature	-20 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	3200–6000 K
Strobe frequency	0.5–20 Hz
Color wheel rotation	up to 270 °/s (45 rpm)
Gobo wheel 1 rotation	up to 240 °/s (40 rpm)
Gobo wheel rotation	up to 240 °/s (40 rpm)
Gobo rotation	up to 360 °/s (60 rpm)
Prism rotation	up to 420 °/s (70 rpm)

Spot diameter



Distance	Ø 0.9°	Ø 22°
2 m	0.03 m	0.78 m
4 m	0.06 m	1.6 m
6 m	0.09 m	2.3 m
8 m	0.13 m	3.1 m
10 m	0.16 m	3.9 m
15 m	0.24 m	5.8 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.