DMX REFERENCE

330W LED BSW

LED 330W LED BSW

LED



Manufacturer	LED
GDTF file	led_330W_LED_BSW_146836.gdtf
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1 About this manual

This document describes the LED 330W LED BSW by LED. It was compiled from the GDTF file led_330W_LED_BSW_146836.gdtf from the GDTF-Share library.

File revision: “330W LED BSW”.

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 LED; 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

DMX modes

Mode	Channels	Units in one universe	First start addresses
21 DMX	21	24	1, 22, 43, 64, ...

No light? Check these channels

- 21 DMX: CH 1 Shutter at 20–24 “Open” or 110–124 or 130–144 or 150–255; CH 2 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.

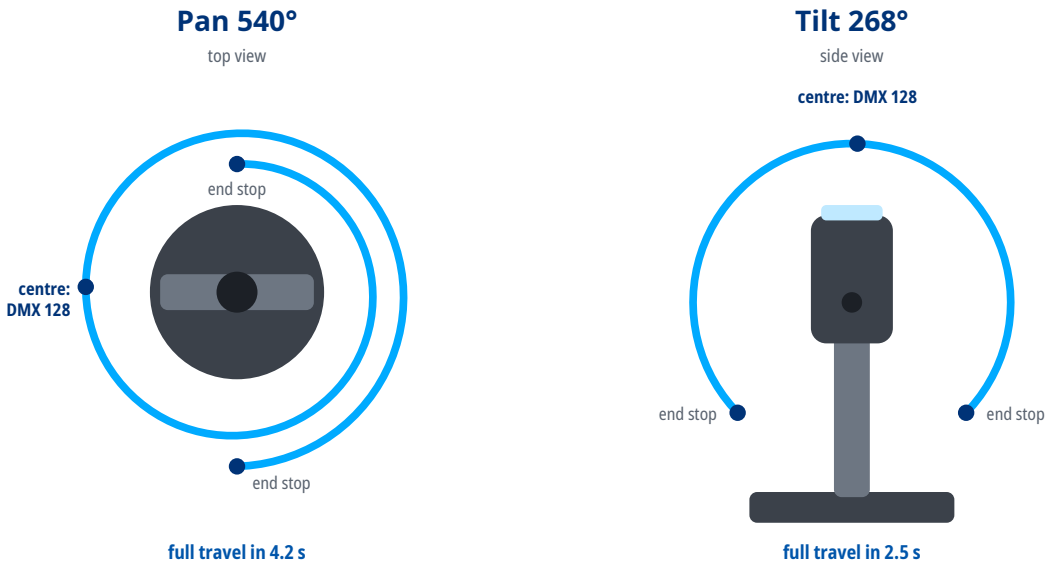
4 Product description

Description in the GDTF file

“In the crowded world of medium-high power lights, the AXCOR PROFILE 600 ST stands out for its excellent combination of high performance, exceptional light quality, and versatility of use. It fits a 500 W white LED engine, available in two versions: with high output 6500K color temperature, or - alternatively - with 5600K color temperature and a CRI of around 90. The luminous efficiency is among the highest in this power category, and - if necessary - it can be further increased by about 25% thanks to “boost mode” (available on the standard version and on the HC version), making AXCOR PROFILE 600 a perfect tool for tours and large events. A wide zoom range from 5.3° to 47.2° (1:9 ratio) means the light can be used in a variety of situations, including those for which a narrow angle is best. The completeness of its color section, its great wealth of visual effects, its framing system implemented with technological devices that enhance its precision and versatility, the possibility of using it as a wash light, make the Axcor Profile 600 an essential benchmark for all modern entertainment uses.”

“The AXCOR PROFILE 600 TEATRO is a special version of the Axcor Profile 600 ST that features an updated cooling system and mechanisms to significantly reduce the unit’s acoustical footprint. Available in two different CRI versions, this fixture is ideal for applications where noise is a concern in venues such as theatres, television studios, opera houses, conference halls, and more.”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

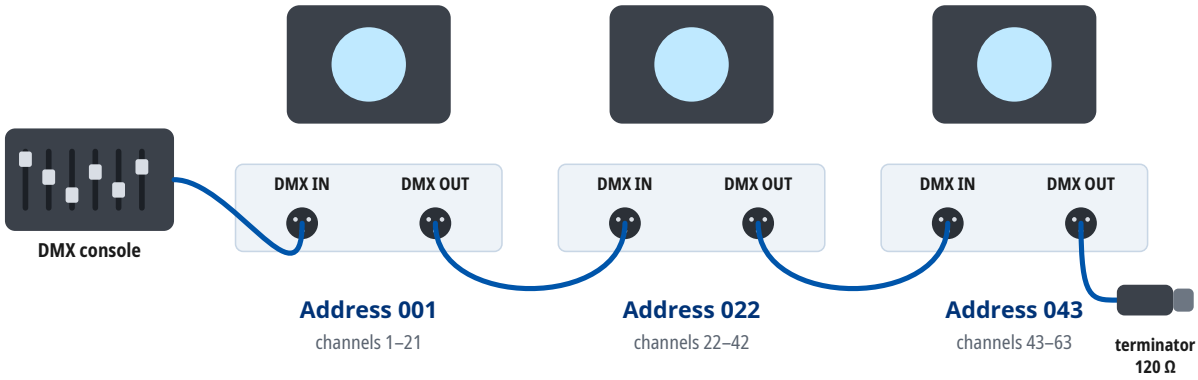
⚠ **WARNING**

- 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 21 DMX: every unit occupies 21 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

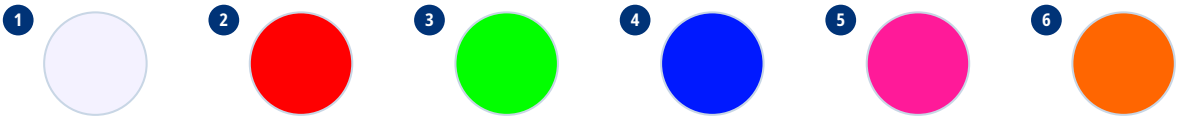
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “21 DMX”: 21.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “21 DMX”, you can use, for example, the start addresses 1, 22, 43, 64.
- 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

	21 DMX 21 channels
Pan / Tilt	16, 18
Dimmer	2
Shutter / strobe	1
Color mixing	4–6
Color temperature	13
Color wheel	7
Gobo wheel	8–10
Gobo rotation	9
Prism	11, 12
Frost	21
Zoom	14
Focus	15

Color wheel



1 Color: Open
DMX 0–6

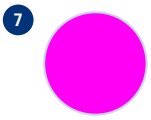
2 Color 1
DMX 7–12

3 Color 2
DMX 13–18

4 Color 3
DMX 19–25

5 Color 4
DMX 26–31

6 Color 5
DMX 32–37



7 Color 6
DMX 38–64

Gobo wheel 1



1 Gobo: Open
DMX 0–7

2 Gobo 1
DMX 8–15

3 Gobo 2
DMX 16–23

4 Gobo 3
DMX 24–31

5 Gobo 4
DMX 32–39

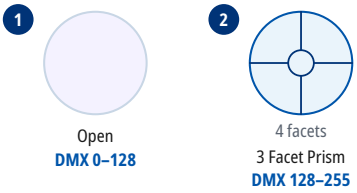
6 Gobo 5
DMX 40–47



7 Gobo 6
DMX 48–55

8 Gobo 7
DMX 56–64

Prism



1 Open
DMX 0–128

2 4 facets
3 Facet Prism
DMX 128–255

Gobo wheel 2



1 Gobo: Open
DMX 0–6

2 GOBO 1
DMX 7–12

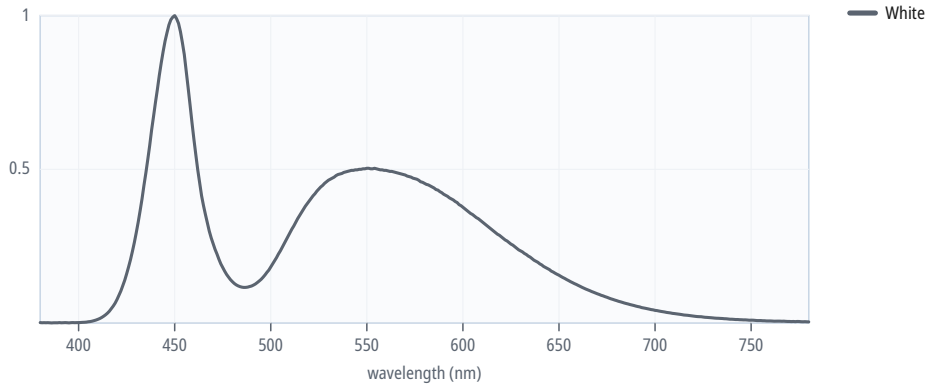
3 GOBO 2
DMX 13–18

4 GOBO 3
DMX 19–25

5 GOBO 4
DMX 26–31

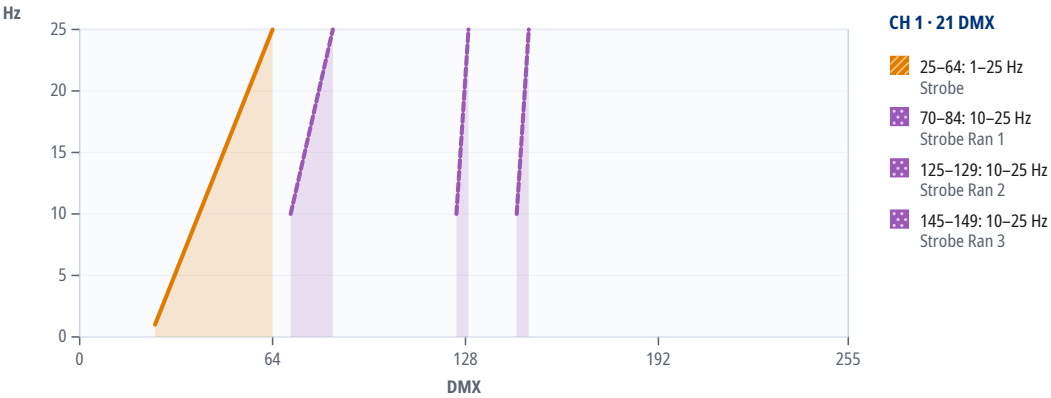
6 Gobo 5
DMX 32–64

Spectra of the light sources



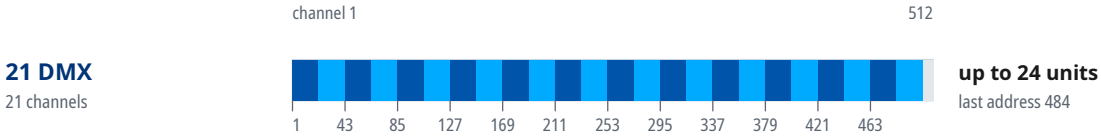
Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “21 DMX”

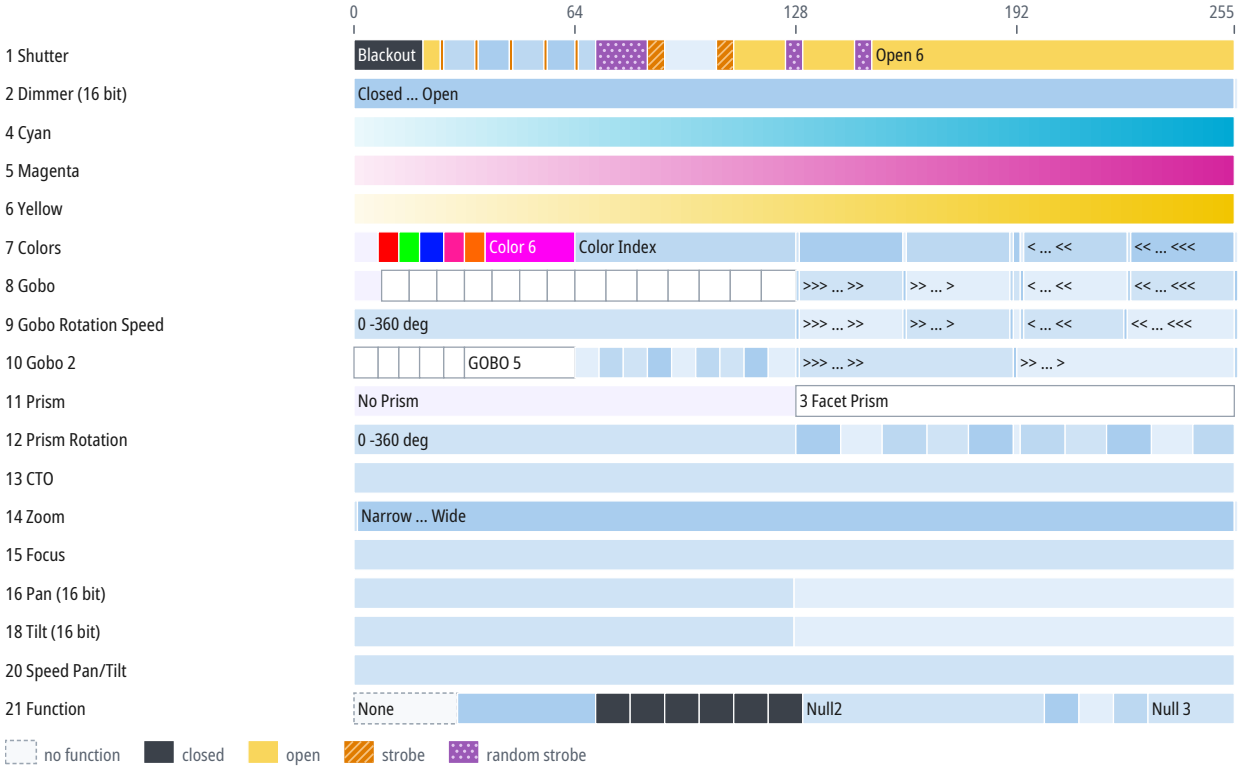
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	106	11	211	16	316
2	22	7	127	12	232	17	337
3	43	8	148	13	253	18	358
4	64	9	169	14	274	19	379
5	85	10	190	15	295	20	400

Mode 21 DMX

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 1 Shutter at 20–24 “Open” or 110–124 or 130–144 or 150–255; CH 2 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Shutter 255, CH 2 Dimmer 255, CH 4 Cyan 0, CH 5 Magenta 0, CH 6 Yellow 0, CH 7 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Shutter	0–19	Blackout
		20–24	Open
		25	x1 Strb>>
		26–34	x1 Strb>> ... x2 Strb>>
		35	x2 Strb>>
		36–44	x2 Strb>> ... x3 Strb>>
		45	x3 Strb>>
		46–54	x3 Strb>> ... x4 Strb>>
		55	x4 Strb>>
		56–63	x4 Strb>> ... x5 Strb>>
		64	x5 Strb>>
		65–69	Open2
		70–84	Strobe Ran 1 (10–25 Hz)
		85–89	Strobe Pulse Close
		90–104	Open3
		105–109	Strobe Pulse Open
		110–124	Open 4
		125–129	Strobe Ran 2 (10–25 Hz)
		130–144	Open 5
		145–149	Strobe Ran 3 (10–25 Hz)
		150–255	Open 6
2	Dimmer	0–255	Closed ... Open
		255	Open
3	Dimmer Fine	0–255	Fine adjustment of CH 2
4	Cyan	0–255	
5	Magenta	0–255	
6	Yellow	0–255	
7	Colors	0–6	Color: Open
		7–12	Color 1
		13–18	Color 2
		19–25	Color 3
		26–31	Color 4
		32–37	Color 5
		38–63	Color 6
		64–127	Color Index
		128	x1 Spin C1>>
		129–158	x1 Spin C1>> ... x2 Spin C1>>
		159	x2 Spin C1>>
		160–189	x2 Spin C1>> ... x3 Spin C1>>
		190	x3 Spin C1>>
		191–192	Stop

CH	Function	DMX	Description
7	Colors (continued)	193	<
		194–223	< ... <<
		224	<<
		225–254	<< ... <<<
		255	<<<
8	Gobo	0–7	Gobo: Open
		8–15	Gobo 1
		16–23	Gobo 2
		24–31	Gobo 3
		32–39	Gobo 4
		40–47	Gobo 5
		48–55	Gobo 6
		56–63	Gobo 7
		64–72	Shake 1-1>>
		73–81	Shake 1-2>>
		82–90	Shake 1-3>>
		91–99	Shake 1-4>>
		100–108	Shake 1-5>>
		109–117	Shake 1-6>>
		118–127	Shake 1-7>>
		128	>>>
		129–158	>>> ... >>
		159	>>
		160–189	>> ... >
		190	>
		191–192	Stop
		193	<
		194–223	< ... <<
		224	<<
		225–254	<< ... <<<
		255	<<<
9	Gobo Rotation Speed	0–127	0 -360 deg
		128	>>>
		129–158	>>> ... >>
		159	>>
		160–189	>> ... >
		190	>
		191–192	Stop
		193	<
		194–222	< ... <<
		223	<<
		224–254	<< ... <<<

CH	Function	DMX	Description
9	Gobo Rotation Speed (continued)	255	<<<
10	Gobo 2	0–6	Gobo: Open
		7–12	GOBO 1
		13–18	GOBO 2
		19–25	GOBO 3
		26–31	GOBO 4
		32–63	GOBO 5
		64–127	Empty Channel Set
		128	>>>
		129–190	>>> ... >>
		191	>>
		192–254	>> ... >
		255	>
11	Prism	0–127	No Prism
		128–255	3 Facet Prism
12	Prism Rotation	0–127	0 -360 deg (360°)
		128–140	x5 Rot P1<< (480–387.1 °/s)
		141–152	x4 Rot P1<< (379.4–294.3 °/s)
		153–165	x3 Rot P1<< (286.6–193.7 °/s)
		166–177	x2 Rot P1<< (186–100.9 °/s)
		178–190	x1 Rot P1<< (93.2–0.3 °/s)
		191–192	Prism 1 Pos Rotate: Stop
		193–205	x1 Rot P1>> (0.3–93.2 °/s)
		206–217	x2 Rot P1>> (100.9–186 °/s)
		218–230	x3 Rot P1>> (193.7–286.6 °/s)
		231–242	x4 Rot P1>> (294.3–379.4 °/s)
		243–255	x5 Rot P1>> (387.1–480 °/s)
13	CTO	0–255	6000–3000 K
14	Zoom	0	Narrow
		1–254	Narrow ... Wide
		255	Wide
15	Focus	0–255	
16	Pan	0–127	Pan
		128	Home
		128–255	Pan
17	Pan Fine	0–255	Fine adjustment of CH 16
18	Tilt	0–127	Tilt
		128	Home
		128–255	Tilt
19	Tilt Fine	0–255	Fine adjustment of CH 18
20	Speed Pan/Tilt	0–255	
21	Function	0–29	None

CH	Function	DMX	Description
21	Function (continued)	30–69	Frost On
		70–79	Blackout P/T Move En 8s
		80–89	Blackout P/T Move Dis 8s
		90–99	Blackout Color Move En 8s
		100–109	Blackout Color Move Dis 8s
		110–119	Blackout Gobo Move En 8s
		120–129	Blackout Gobo Move Dis 8s
		130–199	Null2
		200–209	Reset All
		210–219	Reset Eff
		220–229	Reset PT
		230–255	Null 3

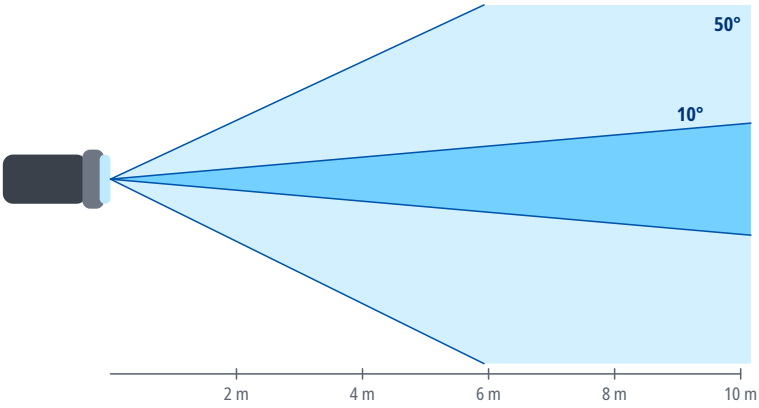
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	500 W
Luminous flux	60,000 lm
Color temperature	6,500 K
Color rendering index (CRI)	70
Optics	
Zoom	10–50°
Movement	
Pan	540°
Tilt	268°
Dimensions and construction	
Weight	33 kg
Operating environment	
Operating temperature	-20 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	3000–6000 K
Strobe frequency	1–25 Hz
Color wheel rotation	up to 120 °/s (20 rpm)
Gobo wheel 1 rotation	up to 120 °/s (20 rpm)
Gobo wheel 2 rotation	up to 120 °/s (20 rpm)
Gobo 1 rotation	up to 320 °/s (53 rpm)
Prism rotation	up to 480 °/s (80 rpm)

Spot diameter



Distance	Ø 10°	Ø 50°
2 m	0.35 m	1.9 m
4 m	0.7 m	3.7 m
6 m	1 m	5.6 m
8 m	1.4 m	7.5 m
10 m	1.7 m	9.3 m
15 m	2.6 m	14 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.