DMX REFERENCE

LP-900

MRca



Manufacturer	MRca
GDTF file	MRca_LP-900_92203.gdtf
GDTF revision	2025/4/4 · 2025-04-04
Generated	2026-11-24

Contents

1 About this manual 2
2 Quick reference 2
3 Safety instructions 3
4 Product description 4
5 Installation 5
6 Connections 5
7 Operation 6
8 Functions at a glance 7
9 DMX channels 9
Mode 1 10
10 Technical specifications 16
11 Maintenance and cleaning 17
12 Troubleshooting 17
13 Disposal 18

1 About this manual

This document describes the LP-900 by MRca. It was compiled from the GDTF file MRca_LP-900_92203.gdtf from the GDTF-Share library.

File revision: “2025/4/4”.

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 MRca; 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
Power consumption	850 W
Weight	35 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode 1	56	9	1, 57, 113, 169, ...

No light? Check these channels

- Mode 1: CH 54 Shutter at 32–63 “Open” or 96–127 or 160–191 or 224–255; CH 55 Dimmer above 0


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

3 Safety instructions


Read the manual before use


Risk of electric shock


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

- Connect the device only to a properly installed mains outlet with a protective earth (ground) contact. The outlet or other means of disconnection must remain easily accessible.
- Power supply: 100–240 V, 50/60 Hz. Before connecting, make sure that the mains voltage matches this value and the value on the rating plate of the device.
- Do not connect the device to a dimmer or to a dimmed circuit.
- Use only the original power cable or a cable with identical ratings. Protect the cable from damage, do not run it over sharp edges, and never unplug it by pulling on the cable.
- When connecting several devices to one circuit, do not exceed its permitted load.
- Do not touch the device with wet hands.

⚠ 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.

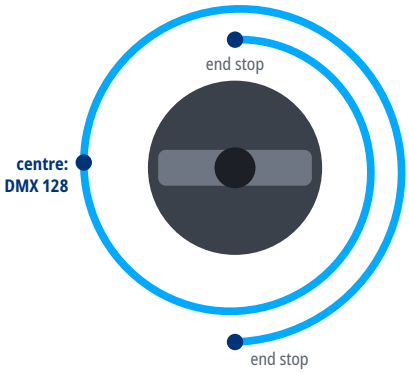
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do 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

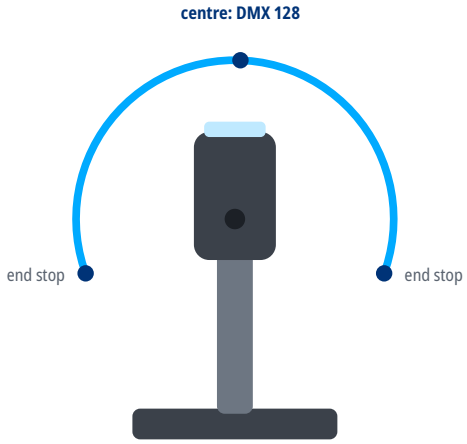
Pan 540°

top view



Tilt 220°

side view



5 Installation

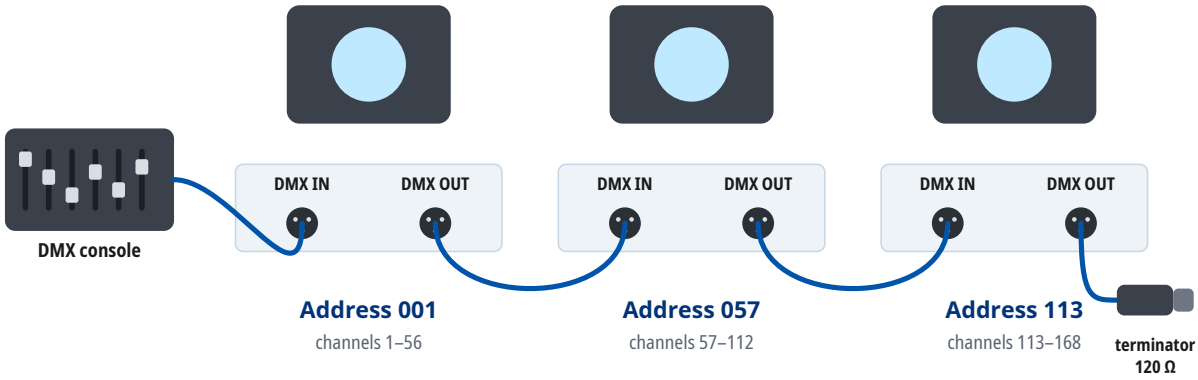
⚠ **WARNING**

- 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: 35 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: every unit occupies 56 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”: 56.
- 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”, you can use, for example, the start addresses 1, 57, 113, 169.
- 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

	Mode 1 56 channels
Pan / Tilt	1, 3
Dimmer	55
Shutter / strobe	54
Color mixing	14–16
Color temperature	17
Color wheel	10
Gobo wheel	26, 30
Gobo rotation	26, 30, 32
Prism	34–37
Frost	22, 38
Zoom	41
Focus	43
Iris	39
Animation wheel	23–25
Effects / macros	25

Color wheel

1. White — DMX 0
2. Red — DMX 64–70
3. Blue — DMX 71–77
4. Amber — DMX 78–84
5. Green — DMX 85–91
6. Purple — DMX 92–98
7. Pink — DMX 99–105
8. Orange — DMX 106–112
9. White2 — DMX 113–119
10. White3 — DMX 120–128

Gobo wheel 1

1

White
DMX 0–6

2

Gobo 2: Gobo 1
DMX 7–11

3

Gobo 2
DMX 12–16

4

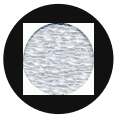
Gobo 2: Gobo 3
DMX 17–21

5

Gobo 2: Gobo 4
DMX 22–26

6

Gobo 2: Gobo 5
DMX 27–31

7

Gobo 2: Gobo 6
DMX 32–36

8

Gobo 2: Gobo 7
DMX 37–41

Gobo wheel 2

1

White
DMX 0–4

2

Gobo 1
DMX 5–12

3

Gobo 1: Gobo 2
DMX 13–20

4

Gobo 1: Gobo 3
DMX 21–28

5

Gobo 1: Gobo 4
DMX 29–36

6

Gobo 1: Gobo 5
DMX 37–44

7

Gobo 1: Gobo 6
DMX 45–52

8

Gobo 1: Gobo 7
DMX 53–60

9

Gobo 8
DMX 61–77

Animation wheel

1

White
DMX 0–3

2

Effect
DMX 255

Prism 1

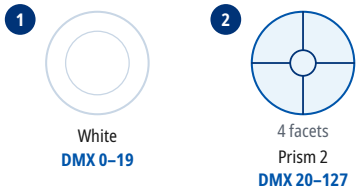
1

White
DMX 0

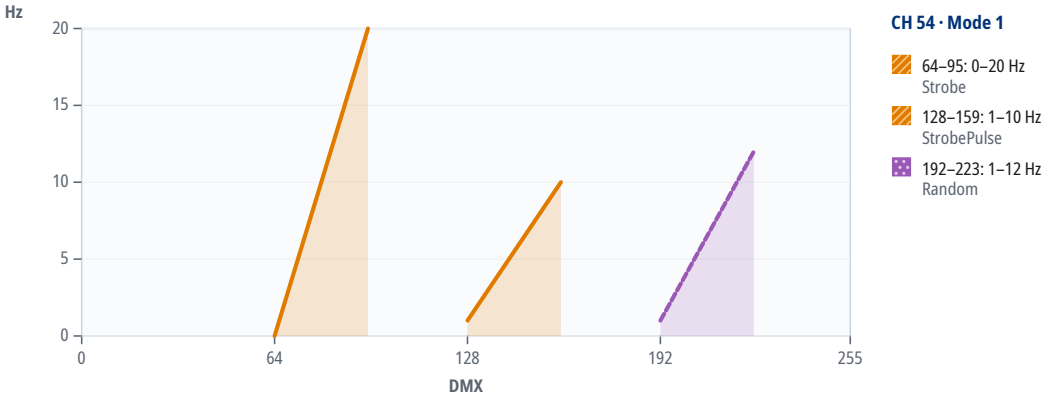
2

6 facets
Prism
DMX 20–73

Prism 2

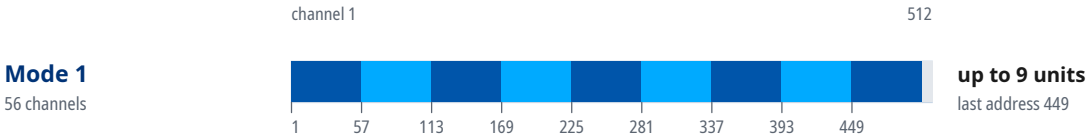


Strobe rate



9 DMX channels

Units in one DMX universe



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

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	281	11	U2 · 57	16	U2 · 337
2	57	7	337	12	U2 · 113	17	U2 · 393
3	113	8	393	13	U2 · 169	18	U2 · 449
4	169	9	449	14	U2 · 225	19	U3 · 1
5	225	10	U2 · 1	15	U2 · 281	20	U3 · 57

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 1

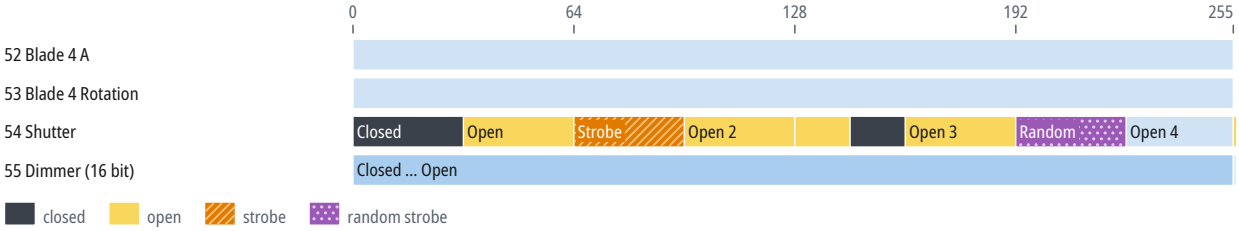
16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 54 Shutter at 32–63 “Open” or 96–127 or 160–191 or 224–255; CH 55 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 14 Cyan 0, CH 15 Magenta 0, CH 16 Yellow 0.

Channel functions at a glance



Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		128	Home
		128–255	Pan 1
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Tilt 1
		128	Home
		128–255	Tilt 1
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	XY Speed	0–255	
6	Control	0–39	Empty
		40–109	Empty ... Dim I-Square
		110–114	Dim I-Square
		115–119	Dim line
		120–129	Dim line ... eff reset
		130–139	Eff reset
		140–149	p/t reset
		150–159	Color reset
		160–169	Gobo reset
		170–174	Pan reset
		175–179	Till reset
		180–189	zoom/fucus reset
		190–199	Shapers reset
		200–209	All reset
		210–255	Control 1 1
10	Colors	0	White
		1–63	White ... Red
		64–70	Red
		71–77	Blue
		78–84	Amber
		85–91	Green
		92–98	Purple
		99–105	Pink
		106–112	Orange
		113–119	White2

CH	Function	DMX	Description
10	Colors (continued)	120–127	White3
		128–189	>>> (362.8–14.2 °/s)
		190–193	Color 1 Wheel Spin: Stop
		194–255	<<< (1–360 °/s)
11	Colors Fine	0–255	Fine adjustment of CH 10
14	Cyan	0–255	Cyan
15	Magenta	0–255	Magenta
16	Yellow	0–255	Yellow
17	CTO	0	OFF
		1–2	OFF ... 8000K
		3–5	8000K
		6–49	8000K ... 7000K
		50–55	7000K
		56–99	7000K ... 6000K
		100–105	6000K
		106–149	6000K ... 5000K
		150–155	5000K
		156–199	5000K ... 4000K
		200–205	4000K
		206–249	4000K ... 3000K
		250–255	3000K
19	Color Mix Mode	0–255	
21	Color Fade	0–255	
22	Frost	0–255	
23	Animation Wheel	0–3	White
		4–254	White ... Effect
		255	Effect
24	Animation Wheel Spin	0–127	>>> (360–1 °/s)
		128	Stop
		129–255	<<< (1–360 °/s)
25	Animation Wheel Macro	0–7	White
		8–9	Macro 1
		10–11	Macro 2
		12–13	Macro 3
		14–15	Macro 4
		16–17	Macro 5
		18–19	Macro 6
		20–21	Macro 7
		22–23	Macro 8
		24–25	Macro 9
		26–27	Macro 10
		28–255	Animation Wheel 1 Macro 1

CH	Function	DMX	Description
26	Gobo	0–4	White
		5–12	Gobo 1
		13–20	Gobo 1: Gobo 2
		21–28	Gobo 1: Gobo 3
		29–36	Gobo 1: Gobo 4
		37–44	Gobo 1: Gobo 5
		45–52	Gobo 1: Gobo 6
		53–60	Gobo 1: Gobo 7
		61–76	Gobo 1: Gobo 8
		77–89	Gobo 1 Select Shake: Gobo 1 (1–0.1 Hz)
		90–102	Gobo 1 Select Shake: Gobo 2 (1–0.1 Hz)
		103–115	Gobo 1 Select Shake: Gobo 3 (1–0.1 Hz)
		116–128	Gobo 1 Select Shake: Gobo 4 (1–0.1 Hz)
		129–141	Gobo 1 Select Shake: Gobo 5 (1–0.1 Hz)
		142–154	Gobo 1 Select Shake: Gobo 6 (1–0.1 Hz)
		155–167	Gobo 1 Select Shake: Gobo 7 (1–0.1 Hz)
		168–180	Gobo 1 Select Shake: Gobo 8 (1–0.1 Hz)
		181–201	Gobo 1 Select Spin 3
		202–227	>>> (1–360 °/s)
		228–229	Gobo 1 Select Spin: Stop
		230–255	<<< (360–1 °/s)
30	Gobo 2	0–6	White
		7–11	Gobo 2: Gobo 1
		12–16	Gobo 2
		17–21	Gobo 2: Gobo 3
		22–26	Gobo 2: Gobo 4
		27–31	Gobo 2: Gobo 5
		32–36	Gobo 2: Gobo 6
		37–41	Gobo 2: Gobo 7
		42–76	Gobo 2 1
		77–84	Gobo 2 Select Shake: Gobo 1 (1–0.1 Hz)
		85–92	Gobo 2 Select Shake: Gobo 2 (1–0.1 Hz)
		93–100	Gobo 2 Select Shake: Gobo 3 (1–0.1 Hz)
		101–108	Gobo 2 Select Shake: Gobo 4 (1–0.1 Hz)
		109–116	Gobo 2 Select Shake: Gobo 5 (1–0.1 Hz)
		117–124	Gobo 2 Select Shake: Gobo 6 (1–0.1 Hz)
		125–132	Gobo 2 Select Shake: Gobo 7 (1–0.1 Hz)
		133–201	Gobo 2 Select Spin 3
		202–227	>>> (360–1 °/s)
		228–229	Gobo 2 Select Spin: Stop
		230–255	<<< (1–360 °/s)
32	Gobo 2 Rotation Speed	0	Gobo 2 Pos Rotate 2

CH	Function	DMX	Description
32	Gobo 2 Rotation Speed (continued)	1–127	>>> (360–1 °/s)
		128	Stop
		129–255	<<< (1–360 °/s)
33	Gobo 2 Rotation Speed Fine	0–255	Fine adjustment of CH 32
34	Prism	0	White
		1–19	White ... Prism
		20–73	Prism
		74–127	Prism<>
		128–135	Macro 1
		136–143	Macro 2
		144–151	Macro 3
		152–159	Macro 4
		160–167	Macro 5
		168–175	Macro 6
		176–183	Macro 7
		184–191	Macro 8
		192–207	Macro 9
		208–223	Macro 10
		224–239	Macro 11
		240–255	Macro 12
35	Prism Rotation Speed	0–127	>>> (360–1 °/s)
		128	Stop
		129–255	<<< (1–360 °/s)
36	Prism 2	0–19	White
		20–127	Prism 2
		128–135	Macro 1
		136–143	Macro 2
		144–151	Macro 3
		152–159	Macro 4
		160–167	Macro 5
		168–175	Macro 6
		176–183	Macro 7
		184–191	Macro 8
		192–207	Macro 9
		208–223	Macro 10
		224–239	Macro 11
		240–255	Macro 12
37	Prism 2 Rotation Speed	0–127	>>> (360–1 °/s)
		128	Stop
		129–255	<<< (up to 360 °/s (60 rpm))
38	Frost 2	0–255	
39	Iris	0–255	

CH	Function	DMX	Description
40	Iris Fine	0–255	Fine adjustment of CH 39
41	Zoom	0–127	Min … center
		128–255	Center … Max
		255	Max
42	Zoom Fine	0–255	Fine adjustment of CH 41
43	Focus	0–255	
44	Focus Fine	0–255	Fine adjustment of CH 43
45	Shaper Rotation	0–255	
46	Blade 1 A	0–255	
47	Blade 1 Rotation	0–255	
48	Blade 2 A	0–255	
49	Blade 2 Rotation	0–255	
50	Blade 3 A	0–255	
51	Blade 3 Rotation	0–255	
52	Blade 4 A	0–255	
53	Blade 4 Rotation	0–255	
54	Shutter	0–31	Closed
		32–63	Open
		64–95	Strobe (0–20 Hz)
		96–127	Open 2
		128–143	Pulse open (1–10 Hz)
		144–159	Pulse closed (10–1 Hz)
		160–191	Open 3
		192–223	Random (1–12 Hz)
		224–255	Open 4
55	Dimmer	0–255	Closed … Open
		255	Open
56	Dimmer Fine	0–255	Fine adjustment of CH 55

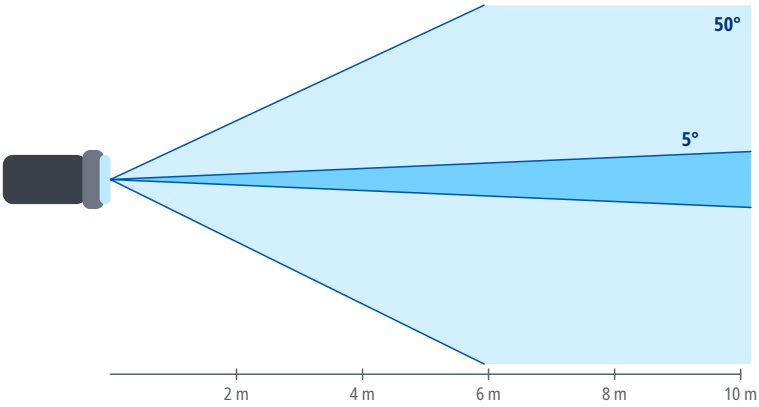
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	700 W
Luminous flux	1,000 lm
Color temperature	6,000 K
Color rendering index (CRI)	85
Optics	
Zoom	5–50°
Movement	
Pan	540°
Tilt	220°
Control	
DMX connection	5-pin XLR IN/OUT, 3-pin XLR IN/OUT
RJ45 connectors	RJ45 IN
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	850 W
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	35 kg
Operating environment	
Operating temperature	-10 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	3000–8000 K
Strobe frequency	0–20 Hz
Color wheel rotation	up to 360 °/s (60 rpm)
Gobo wheel 1 rotation	up to 360 °/s (60 rpm)
Gobo wheel 2 rotation	up to 360 °/s (60 rpm)
Gobo 1 rotation	up to 360 °/s (60 rpm)
Prism 1 rotation	up to 360 °/s (60 rpm)
Prism 2 rotation	up to 360 °/s (60 rpm)
Animation wheel rotation	up to 360 °/s (60 rpm)

Spot diameter



Distance	Ø 5°	Ø 50°
2 m	0.17 m	1.9 m
4 m	0.35 m	3.7 m
6 m	0.52 m	5.6 m
8 m	0.7 m	7.5 m
10 m	0.87 m	9.3 m
15 m	1.3 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.