DMX REFERENCE

P1400-IP

Krypton



Manufacturer	Krypton
GDTF file	Krypton_P1400-IP_82761.gdtf
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1 About this manual

This document describes the P1400-IP by Krypton. It was compiled from the GDTF file Krypton_P1400-IP_82761.gdtf from the GDTF-Share library.

File revision: “Release”.

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 Krypton; 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	42.5 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Extended	52	9	1, 53, 105, 157, ...
Standard	36	14	1, 37, 73, 109, ...

No light? Check these channels

- Extended: CH 5 Dimmer above 0
- Standard: CH 5 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.

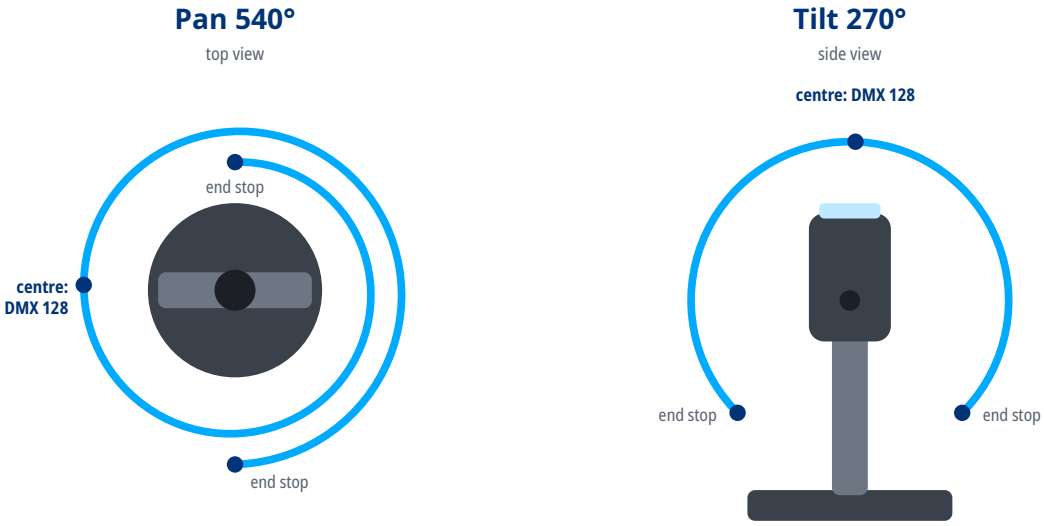
⚠ CAUTION

- 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

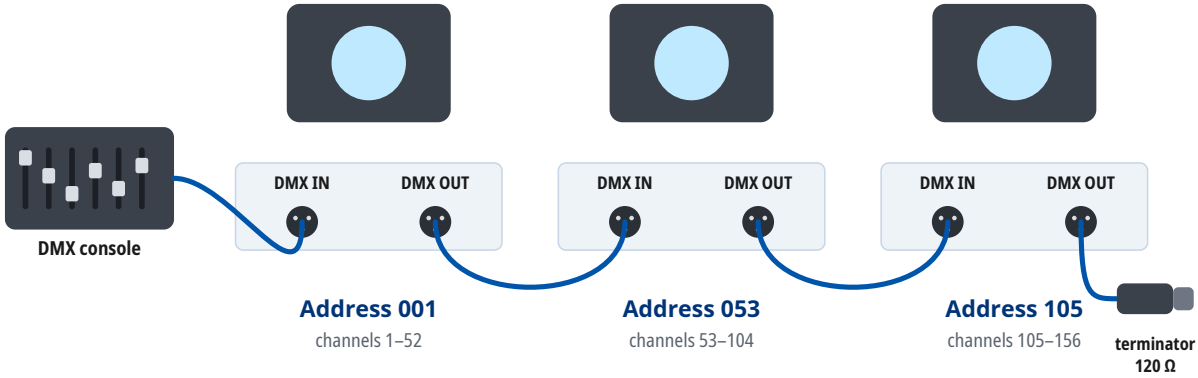
> ⚠ **WARNING**
>
> - Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
> - The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
> - Weight of the device: 42.5 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 Extended: every unit occupies 52 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 “Extended”: 52.
- 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 “Extended”, you can use, for example, the start addresses 1, 53, 105, 157.
- 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

	Extended 52 channels	Standard 36 channels
Pan / Tilt	1, 3	1, 3
Dimmer	5	5
Shutter / strobe	7	7
Color mixing	8, 10, 12	8–10
Color temperature	14	11
Color wheel	16	12
Gobo wheel	18, 21	14, 17
Gobo rotation	19	15
Prism	27, 28	21, 22
Frost	29, 30	23, 24
Zoom	22	18
Focus	24	19
Iris	26	20
Animation wheel	31	25

Color wheel



1. Open — DMX 0–5
2. Deep Red — DMX 120–129
3. Medium Blue — DMX 130–139
4. Deep Green — DMX 140–149
5. Amber — DMX 150–159
6. Congo Blue — DMX 160–169
7. CTB — DMX 170–179

Gobo wheel 1



1. Gobo: Open — DMX 0–5
2. Gobo 1 — DMX 6–20
3. Gobo 2 — DMX 21–35
4. Gobo 3 — DMX 36–50
5. Gobo 4 — DMX 51–65
6. Gobo 5 — DMX 66–80
7. Gobo 1-6 — DMX 81–96

Prism

1
Open
DMX 0–5

2 
6 facets
6 Linear Prism
DMX 6–130

3 
4 facets
4 Facet Prism
DMX 131–255

Animation wheel

1
Wheel Position 0 degrees
DMX 0–6

2 
Animation Wheel
DMX 128–129

Gobo wheel 2

1
Gobo: Open
DMX 0–5

2 
Gobo 1
DMX 6–18

3 
Gobo 2
DMX 19–31

4 
Gobo 3
DMX 32–44

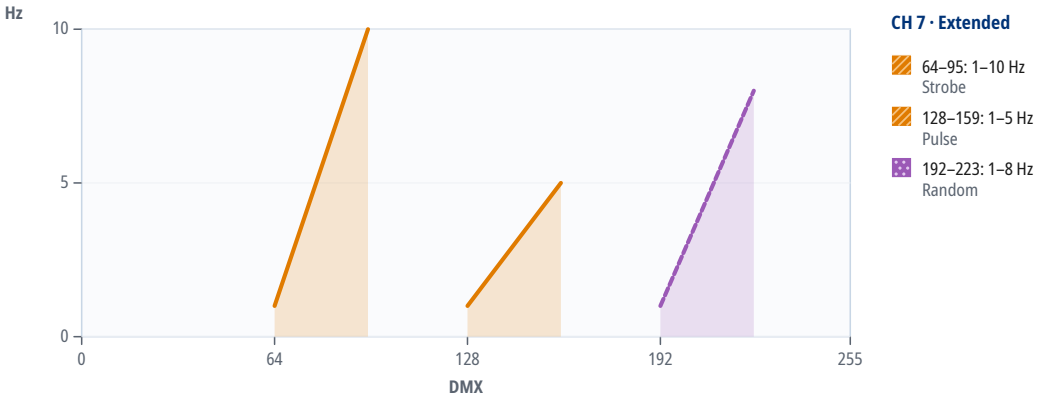
5 
Gobo 4
DMX 45–57

6 
Gobo 5
DMX 58–70

7 
Gobo 6
DMX 71–83

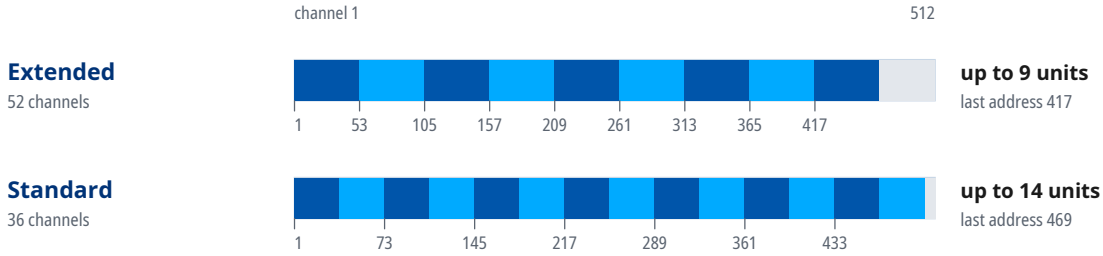
8 
Gobo 2-7
DMX 84–97

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Extended”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	261	11	U2 · 53	16	U2 · 313
2	53	7	313	12	U2 · 105	17	U2 · 365
3	105	8	365	13	U2 · 157	18	U2 · 417
4	157	9	417	14	U2 · 209	19	U3 · 1
5	209	10	U2 · 1	15	U2 · 261	20	U3 · 53

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 Extended

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 5 Dimmer above 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan
		128	Center
		128–255	Pan
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Tilt

CH	Function	DMX	Description
3	Tilt (continued)	128	Center
		128–255	Tilt
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Dimmer	0–255	Closed ... Open
		255	Open
6	Dimmer Fine	0–255	Fine adjustment of CH 5
7	Shutter	0–31	Shutter closed
		32–63	Shutter open1
		64	Min Strobe
		65–94	Min Strobe ... max Strobe
		95	Max Strobe
		96–127	Shutter open2
		128	Strobe Pulse Min
		129–158	Strobe Pulse Min ... Strobe Pulse Max
		159	Strobe Pulse Max
		160–191	Shutter Open3
		192	Random Strobe Min
		193–222	Random Strobe Min ... Random Strobe Max
		223	Random Strobe Max
		224–255	Shutter Open4
8	Cyan	0–255	
9	Cyan Fine	0–255	Fine adjustment of CH 8
10	Magenta	0–255	
11	Magenta Fine	0–255	Fine adjustment of CH 10
12	Yellow	0–255	
13	Yellow Fine	0–255	Fine adjustment of CH 12
14	CTO	0–255	6500K ... 2400K
		255	2400K
15	CTO Fine	0–255	Fine adjustment of CH 14
16	Colors	0–5	Open
		5–115	Index
		115–120	Color: Open
		120–130	Deep Red
		130–140	Medium Blue
		140–150	Deep Green
		150–160	Amber
		160–170	Congo Blue
		170–180	CTB
		180–192	Color: Open
		192–223	CW Rot Slow to Fast
		223–224	CW Rot Slow to Fast ... Stop
		224	Spin: Stop

CH	Function	DMX	Description
16	Colors (continued)	224–225	Stop ... CCW Rot Fast to Slow
		225–255	CCW Rot Fast to Slow
17	Colors Fine	0–255	Fine adjustment of CH 16
18	Gobo	0–5	Gobo: Open
		6–20	Gobo 1
		21–35	Gobo 2
		36–50	Gobo 3
		51–65	Gobo 4
		66–80	Gobo 5
		81–95	Gobo 6
		96–110	Gobo 1 shake (slow-fast)
		111–125	Gobo 2 shake (slow-fast)
		126–140	Gobo 3 shake (slow-fast)
		141–155	Gobo 4 shake (slow-fast)
		156–170	Gobo 5 shake (slow-fast)
		171–185	Gobo 6 shake (slow-fast)
		186–192	Shake: Open
		193–223	CW Slow to Fast (180–5.81 °/s)
		224	Spin: Stop
		225–255	CCW Fast to Slow (5.81–180 °/s)
19	Gobo Rotation	0–6	Gobo Position 0 degree
		6–127	Gobo Position 0 degree ... Gobo Position 540 degree
		128	Gobo Position 540 degree
		128–129	Index
		129–191	Rot CW Slow to Fast (8–180 °/s)
		191–192	Rot CW Slow to Fast ... Stop
		192	Rot CW: Stop
		192–193	Stop ... Rot CCW Fast to Slow
		193–255	Rot CCW Fast to Slow (180–8 °/s)
20	Gobo Rotation Fine	0–255	Fine adjustment of CH 19
21	Gobo 2	0–5	Gobo: Open
		6–18	Gobo 1
		19–31	Gobo 2
		32–44	Gobo 3
		45–57	Gobo 4
		58–70	Gobo 5
		71–83	Gobo 6
		84–96	Gobo 7
		97–109	Gobo 1 shake (slow-fast)
		110–122	Gobo 2 shake (slow-fast)
		123–135	Gobo 3 shake (slow-fast)
		136–148	Gobo 4 shake (slow-fast)

CH	Function	DMX	Description
21	Gobo 2 (continued)	149–161	Gobo 5 shake (slow-fast)
		162–174	Gobo 6 shake (slow-fast)
		175–187	Gobo 7 shake (slow-fast)
		188–192	Shake: Open
		193–223	Spin CW Slow to Fast (8–180 °/s)
		224	Spin CW: Stop
		225–255	Spin CCW Fast to Slow (180–8 °/s)
22	Zoom	0–255	Narrow ... wide
		255	Wide
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	Iris	0	Iris: Open
		1–224	Iris: Open ... Close
		225	Iris: Close
		226	Pulse Open: slow
		227–234	Pulse Open: slow ... fast
		235	Pulse Open: fast
		236	Pulse Close: slow
		237–244	Pulse Close: slow ... fast
		245	Pulse Close: fast
		246	Random: Slow
		247–254	Random: Slow ... Fast
		255	Random: Fast
27	Prism	0–5	Open
		6–130	6 Linear Prism
		131–255	4 Facet Prism
28	Prism Rotation Speed	0–5	Rot Off
		6–128	Position 0-540 degrees
		129–191	Rotation CW Slow to Fast (8–180 °/s)
		192	Rotation CW: Stop
		193–255	Rotation CCW Fast to Slow (180–8 °/s)
29	Frost	0–255	
30	Frost 2	0–255	
31	Animation Wheel Rotation	0–6	Wheel Position 0 degrees
		7–127	Wheel Position 0 degrees ... Wheel Position 540 degrees
		128	Wheel Position 540 degrees
		129–191	Rot CW Slow to Fast (8–180 °/s)
		192	Rot CW: Stop
		193–255	Rot CCW Fast to Slow (180–8 °/s)
32	Blade 1 A	0–255	
33	Blade 1 A Fine	0–255	Fine adjustment of CH 32

CH	Function	DMX	Description
34	Blade 1 B	0–255	
35	Blade 1 B Fine	0–255	Fine adjustment of CH 34
36	Blade 2 A	0–255	
37	Blade 2 A Fine	0–255	Fine adjustment of CH 36
38	Blade 2 B	0–255	
39	Blade 2 B Fine	0–255	Fine adjustment of CH 38
40	Blade 3 A	0–255	
41	Blade 3 A Fine	0–255	Fine adjustment of CH 40
42	Blade 3 B	0–255	
43	Blade 3 B Fine	0–255	Fine adjustment of CH 42
44	Blade 4 A	0–255	
45	Blade 4 A Fine	0–255	Fine adjustment of CH 44
46	Blade 4 B	0–255	
47	Blade 4 B Fine	0–255	Fine adjustment of CH 46
48	Shaper Rotation	0–127	Min ... Center
		128–255	Center ... Max
		255	Max
49	Shaper Rotation Fine	0–255	Fine adjustment of CH 48
50	Position Effect Speed	0	Max Speed
		1–254	Max Speed ... Min Speed
		255	Min Speed
51	Dimmer Mode	0–20	Standard
		21–40	Stage
		41–60	TV
		61–80	Architectural
		81–100	Theater
		101–255	Default to Unit Setting
52	Control	0–2	No function
		3–4	OFF Display Backlight
		5–6	On Display Backlight
		7–17	Invert Pan on (Hold 3s)
		18–29	Invert Pan off (Hold 5s)
		30–41	Invert Tilt on (Hold 3s)
		42–53	Invert Tilt off (Hold 5s)
		54–65	Fan Auto (Hold 3s)
		66–77	Fan Silent (Hold 5s)
		78–89	Linear Dimmer Curve (hold 3s)
		90–101	Square Dimmer Curve (hold 3s)
		102–113	Inv-Square Dimmer Curve (hold 3s)
		114–125	S - Dimmer Curve (hold 3s)
		126–137	1200 Hz (hold 3s)
		138–149	3600 Hz (hold 3s)

CH	Function	DMX	Description
52	Control (continued)	150–161	5000 Hz (hold 3s)
		162–173	10000 Hz (hold 3s)
		174–185	15000 Hz (hold 3s)
		186–197	20000 Hz (hold 3s)
		198–209	25000 Hz (hold 3s)
		210–221	Reset Pan/Tilt (Hold 3s)
		222–233	Reset only Head (Hold 3s)
		234–255	Reset All Functions (Hold 3s)

Mode Standard

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 5 Dimmer above 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Extended” (p. 10)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Extended” (p. 10)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Dimmer		Same as CH 5 in the mode “Extended” (p. 11)
6	Dimmer Fine	0–255	Fine adjustment of CH 5

CH	Function	DMX	Description
7	Shutter		Same as CH 7 in the mode “Extended” (p. 11)
8	Cyan	0–255	
9	Magenta	0–255	
10	Yellow	0–255	
11	CTO	0	6500K
		1–254	6500K … 2400K
		255	2400K
12	Colors		Same as CH 16 in the mode “Extended” (p. 11)
13	Colors Fine	0–255	Fine adjustment of CH 12
14	Gobo		Same as CH 18 in the mode “Extended” (p. 12)
15	Gobo Rotation		Same as CH 19 in the mode “Extended” (p. 12)
16	Gobo Rotation Fine	0–255	Fine adjustment of CH 15
17	Gobo 2		Same as CH 21 in the mode “Extended” (p. 12)
18	Zoom	0	Narrow
		1–254	Narrow … wide
		255	Wide
19	Focus	0–255	
20	Iris		Same as CH 26 in the mode “Extended” (p. 13)
21	Prism		Same as CH 27 in the mode “Extended” (p. 13)
22	Prism Rotation Speed		Same as CH 28 in the mode “Extended” (p. 13)
23	Frost	0–255	
24	Frost 2	0–255	
25	Animation Wheel Rotation		Same as CH 31 in the mode “Extended” (p. 13)
26	Blade 1 A	0–255	
27	Blade 1 B	0–255	
28	Blade 2 A	0–255	
29	Blade 2 B	0–255	
30	Blade 3 A	0–255	
31	Blade 3 B	0–255	
32	Blade 4 A	0–255	
33	Blade 4 B	0–255	
34	Shaper Rotation	0	Min
		1–127	Min … Center
		128	Center
		129–254	Center … Max
		255	Max
35	Dimmer Mode		Same as CH 51 in the mode “Extended” (p. 14)
36	Control		Same as CH 52 in the mode “Extended” (p. 14)

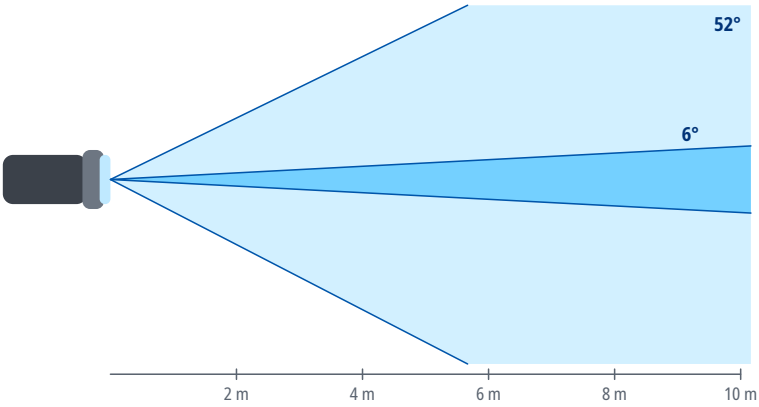
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	1,000 W
Luminous flux	23,000 lm
Color temperature	6,500 K
Color rendering index (CRI)	95
Optics	
Zoom	6–52°
Movement	
Pan	540°
Tilt	270°
Control	
DMX connection	5-pin XLR IN/OUT, 3-pin XLR IN/OUT
Electrical	
Power connectors	powerCON TRUE1 IN
Dimensions and construction	
Weight	42.5 kg
Operating environment	
Operating temperature	-40 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2400–6500 K
Strobe frequency	1–10 Hz
Color wheel rotation	up to 180 °/s (30 rpm)
Gobo wheel 1 rotation	up to 180 °/s (30 rpm)
Gobo wheel 2 rotation	up to 180 °/s (30 rpm)
Gobo 1 rotation	up to 180 °/s (30 rpm)
Prism rotation	up to 180 °/s (30 rpm)
Animation wheel rotation	up to 180 °/s (30 rpm)

Spot diameter



Distance	Ø 6°	Ø 52°
2 m	0.21 m	2 m
4 m	0.42 m	3.9 m
6 m	0.63 m	5.9 m
8 m	0.84 m	7.8 m
10 m	1 m	9.8 m
15 m	1.6 m	14.6 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.