DMX REFERENCE

POWER BEAM 300

JSSL



Manufacturer	JSSL
GDTF file	JSSL_POWER_BEAM_300_119171.gdtf
GDTF revision	V1 Tested · 2025-11-27
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1 About this manual

This document describes the POWER BEAM 300 by JSSL. It was compiled from the GDTF file JSSL_POWER_BEAM_300_119171.gdtf from the GDTF-Share library.

File revision: “V1 Tested”.

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 JSSL; 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.

Note in the GDTF file

“Built for professionals. Designed for impact.”

2 Quick reference

Parameter	Value
Power consumption	850 W
Weight	12.4 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
22CH	22	23	1, 23, 45, 67, ...
18CH	18	28	1, 19, 37, 55, ...

No light? Check these channels

- 22CH: CH 2 Shutter at 104–107, 208–212 or 252–255 “Open”; CH 3 Dimmer above 0
- 18CH: CH 2 Shutter at 104–107, 208–212 or 252–255 “Open”; CH 3 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.

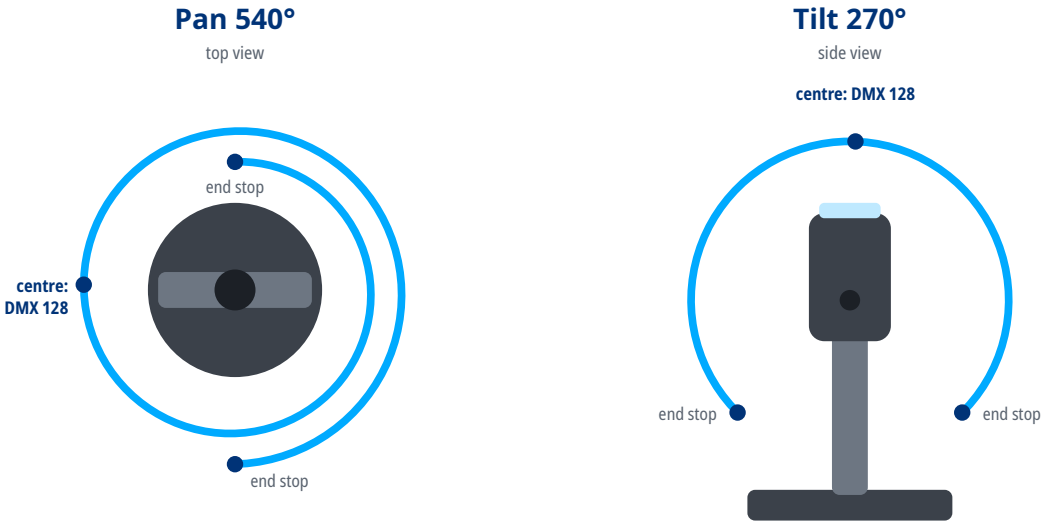
4 Product description

Description in the GDTF file

“JSSL PowerBeam 300”

“Scherp, fel en vol precisie. De PowerBeam 300 levert een ultrasmalle beam met SignatureGlow pixelring, dual stackable prism en razendsnelle pan/tilt. Voorzien van CTO/CTB presets en krachtige output voor indrukwekkende mid-air effecten.”

Range of movement



5 Installation

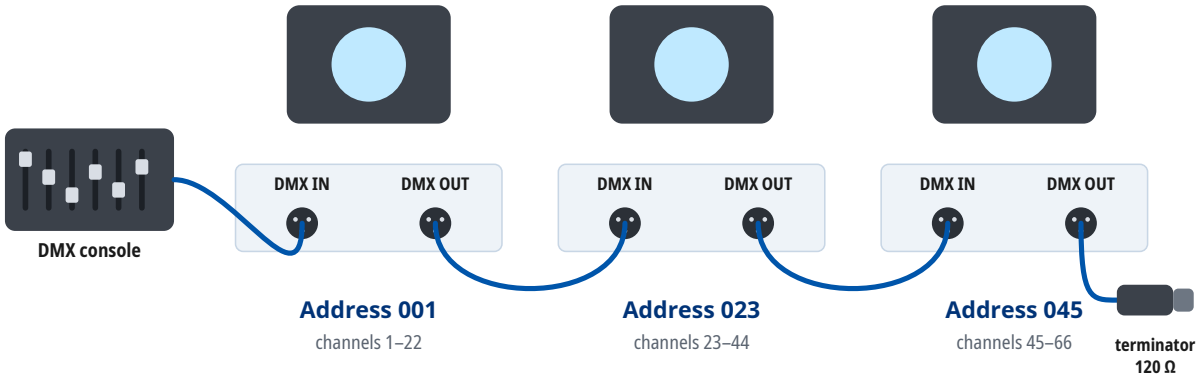
⚠ **WARNING**

- 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: 12.4 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 22CH: every unit occupies 22 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 “22CH”: 22.
- 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 “22CH”, you can use, for example, the start addresses 1, 23, 45, 67.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

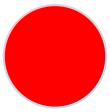
8 Functions at a glance

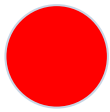
Functions in each DMX mode

	22CH 22 channels	18CH 18 channels
Pan / Tilt	10, 12	10, 12
Dimmer	3	3
Shutter / strobe	2	2
Color wheel	1	1
Gobo wheel	4, 14	4, 14
Prism	5–7	5–7
Frost	8	8
Focus	9	9
Effects / macros	21	

Color wheel

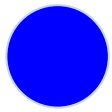
1
Open
DMX 0–4

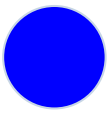
2 
White/Red
DMX 5–9

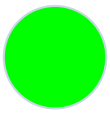
3 
Red
DMX 10–14

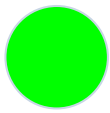
4
Red/Yellow
DMX 15–19

5
Yellow
DMX 20–24

6 
Yellow/Lavender
DMX 25–29

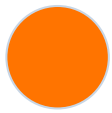
7 
Lavender
DMX 30–34

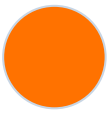
8 
Lavender/Green
DMX 35–39

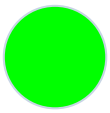
9 
Green
DMX 40–44

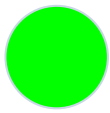
10
Green/Yellow2
DMX 45–49

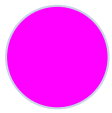
11
Yellow2
DMX 50–54

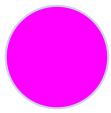
12 
Yellow2/Orange
DMX 55–59

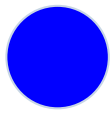
13 
Orange
DMX 60–64

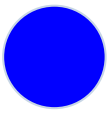
14 
Orange/Green2
DMX 65–69

15 
Green2
DMX 70–74

16 
Green2/Purple
DMX 75–79

17 
Purple
DMX 80–84

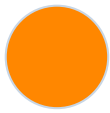
18 
Purple/Blue
DMX 85–89

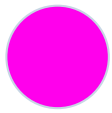
19 
Blue
DMX 90–94

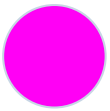
20
Blue/CTO
DMX 95–99

21
CTO
DMX 100–104

22
CTO/Light Orange
DMX 105–109

23 
Light Orange
DMX 110–114

24 
Light Orange/Pink
DMX 115–119

25 
Pink
DMX 120–124

26
Pink/White
DMX 125–129

27
White
DMX 130–134

28 
White/Violet
DMX 135–139

29 
Violet
DMX 140–144

30
Rotate <<<
DMX 150–202

31
Rotate >>>
DMX 203–255

Gobo wheel 1

1 Open
DMX 0–4



2 Gobo 1-1
DMX 5–9

3 Gobo 1-2
DMX 10–14



4 Gobo 1-3
DMX 15–19



5 Gobo 1-4
DMX 20–24



6 Gobo 1-5
DMX 25–29



7 Gobo 1-6
DMX 30–34



8 Gobo 1-7
DMX 35–39



9 Gobo 1-8
DMX 40–44



10 Gobo 1-9
DMX 45–49



11 Gobo 1-10
DMX 50–54



12 Gobo 1-11
DMX 55–59



13 Gobo 1-12
DMX 60–64



14 Gobo 1-13
DMX 65–69



15 Gobo scroll >>>
DMX 70–125

16 Stop
DMX 126–130

Prism 1

1 None
DMX 0–127

2 Prisma 12 Facet
DMX 128–255

Prism 2

1 None
DMX 0–127

2 48 facets
Prisma Wheel 2
DMX 128–255



Gobo wheel 2

1 Open
DMX 0–127

2 7-Color
DMX 128–255



Gobo wheel 3

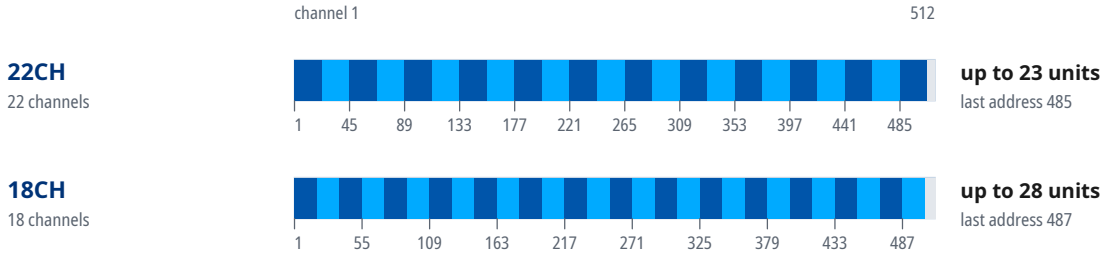
1 Open
DMX 0–127

2 Frost
DMX 128–255



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “22CH”

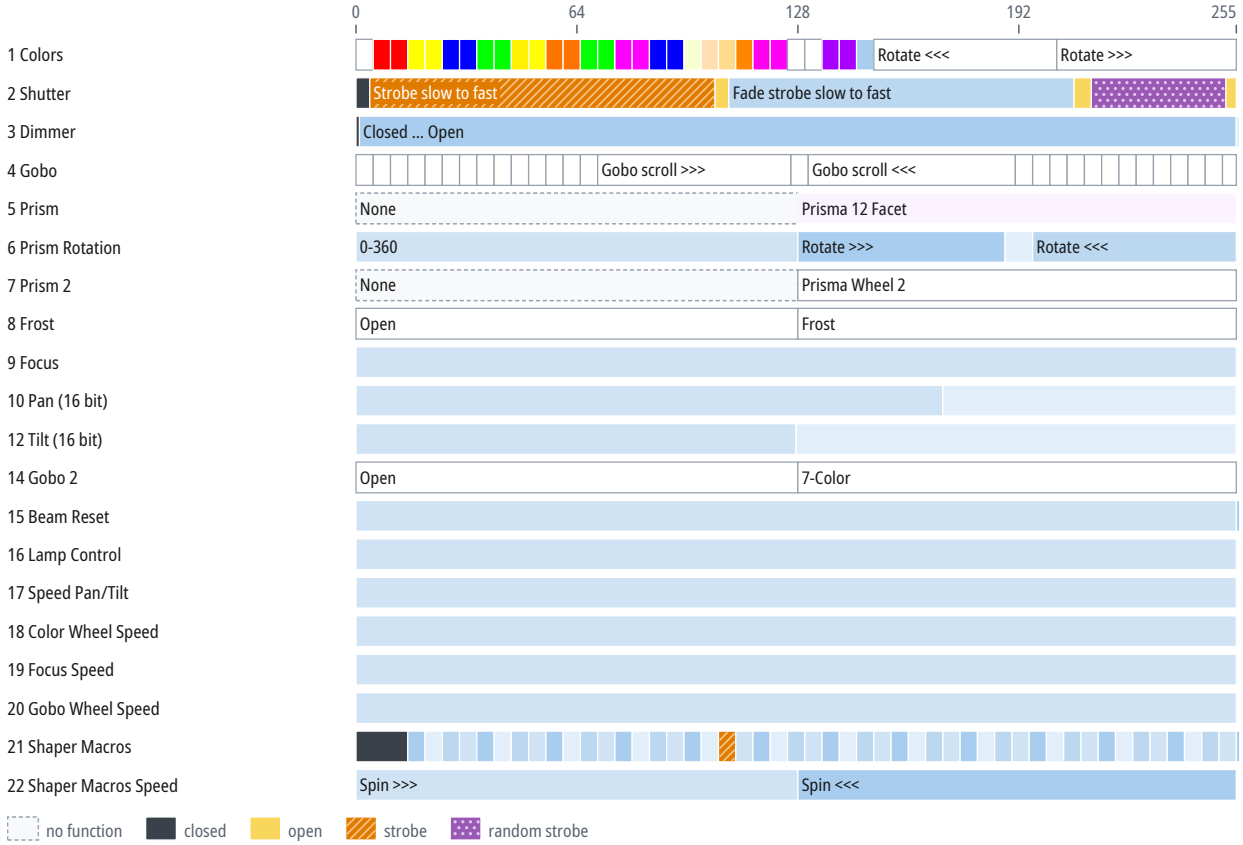
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	111	11	221	16	331
2	23	7	133	12	243	17	353
3	45	8	155	13	265	18	375
4	67	9	177	14	287	19	397
5	89	10	199	15	309	20	419

Mode 22CH

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 2 Shutter at 104–107, 208–212 or 252–255 “Open”; CH 3 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Colors 0, CH 2 Shutter 255, CH 3 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Colors	0–4	Open
		5–9	White/Red
		10–14	Red
		15–19	Red/Yellow
		20–24	Yellow
		25–29	Yellow/Lavender
		30–34	Lavender
		35–39	Lavender/Green
		40–44	Green
		45–49	Green/Yellow2
		50–54	Yellow2
		55–59	Yellow2/Orange
		60–64	Orange
		65–69	Orange/Green2

CH	Function	DMX	Description
1	Colors (continued)	70–74	Green2
		75–79	Green2/Purple
		80–84	Purple
		85–89	Purple/Blue
		90–94	Blue
		95–99	Blue/CTO
		100–104	CTO
		105–109	CTO/Light Orange
		110–114	Light Orange
		115–119	Light Orange/Pink
		120–124	Pink
		125–129	Pink/White
		130–134	White
		135–139	White/Violet
		140–144	Violet
		145–149	Violet ... Rotate <<<
		150–202	Rotate <<<
		203–255	Rotate >>>
2	Shutter	0–3	Closed
		4–103	Strobe slow to fast
		104–107	Open
		108–207	Fade strobe slow to fast
		208–212	Open
		213–251	Random slow to fast
		252–255	Open
3	Dimmer	0	Closed
		1–254	Closed ... Open
		255	Open
4	Gobo	0–4	Open
		5–9	Gobo 1-1
		10–14	Gobo 1-2
		15–19	Gobo 1-3
		20–24	Gobo 1-4
		25–29	Gobo 1-5
		30–34	Gobo 1-6
		35–39	Gobo 1-7
		40–44	Gobo 1-8
		45–49	Gobo 1-9
		50–54	Gobo 1-10
		55–59	Gobo 1-11
		60–64	Gobo 1-12
		65–69	Gobo 1-13

CH	Function	DMX	Description
4	Gobo (continued)	70–125	Gobo scroll >>>
		126–130	Stop
		131–190	Gobo scroll <<<
		191–195	Gobo 1-1 Shake
		196–200	Gobo 1-2 Shake
		201–205	Gobo 1-3 Shake
		206–210	Gobo 1-4 Shake
		211–215	Gobo 1-5 Shake
		216–220	Gobo 1-6 Shake
		221–225	Gobo 1-7 Shake
		226–230	Gobo 1-8 Shake
		231–235	Gobo 1-9 Shake
		236–240	Gobo 1-10 Shake
		241–245	Gobo 1-11 Shake
		246–250	Gobo 1-12 Shake
		251–255	Gobo 1-13 Shake
5	Prism	0–127	None
		128–255	Prisma 12 Facet
6	Prism Rotation	0–127	0-360
		128–187	Rotate >>>
		188–195	Stop
		196–255	Rotate <<<
7	Prism 2	0–127	None
		128–255	Prisma Wheel 2
8	Frost	0–127	Open
		128–255	Frost
9	Focus	0–255	
10	Pan	0–170	Pan 1
		170	Center
		170–255	Pan 1
11	Pan Fine	0–255	Fine adjustment of CH 10
12	Tilt	0–127	Tilt 1
		128	Center
		128–255	Tilt 1
13	Tilt Fine	0–255	Fine adjustment of CH 12
14	Gobo 2	0–127	Open
		128–255	7-Color
15	Beam Reset	0–254	Beam Reset 1
		255	Full Reset
16	Lamp Control	0–255	
17	Speed Pan/Tilt	0–255	
18	Color Wheel Speed	0–255	

CH	Function	DMX	Description
19	Focus Speed	0–255	
20	Gobo Wheel Speed	0–255	
21	Shaper Macros	0–14	Closed
		15–19	Red
		20–24	Green
		25–29	Blue
		30–34	White
		35–39	Magenta
		40–44	Cyan
		45–49	Yellow
		50–54	CTB
		55–59	Pink
		60–64	CFX Full
		65–69	CFX Jump
		70–74	CFX Fade
		75–79	CFX Override
		80–84	CFX Cirl
		85–89	CFX Red/Green
		90–94	CFX RGB
		95–99	CFX RGBM
		100–104	CFX RGB CMY W
		105–109	CFX RGB CMY W Strobe
		110–114	CFX RGB CMY W cirl
		115–119	CFX Green/Blue/Cyan
		120–124	CFX Red/Blue/Magenta
		125–129	CFX Red/Green/Yellow
		130–134	CFX Red/Green/Orange
		135–139	CFX Green/Blue/Cyan
		140–144	CFX Red/Blue/Magenta
		145–149	2PX RGB CMY W
		150–154	2PX CFX
		155–159	3PX RGB CMY W
		160–164	3PX CFX
		165–169	4PX RGB CMY W
		170–174	4PX CFX
		175–179	8PX RGB CMY W
		180–184	8PX CFX
		185–189	2PX Jump RGB CMY W >
		190–194	2PX Jump CFX >
		195–199	2PX Jump RGB CMY W ><
		200–204	2PX Jump CFX ><
		205–209	Cirl R

CH	Function	DMX	Description
21	Shaper Macros (continued)	210–214	Cirl RG
		215–219	Cirl RGB
		220–224	Cirl RGB M
		225–229	Cirl RGB CM
		230–234	Cirl RGB CMY W
		235–239	Cirl RGB CMY
		240–244	Cirl Full Clr
		245–249	Cirl Fill Full Clr
		250–254	Cirl Override Fill Full Clr
		255	Half Cirl Full Clr
22	Shaper Macros Speed	0–127	Spin >>>
		128–255	Spin <<<

Mode 18CH

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 2 Shutter at 104–107, 208–212 or 252–255 “Open”; CH 3 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Colors 0, CH 2 Shutter 255, CH 3 Dimmer 255.

Channel functions at a glance



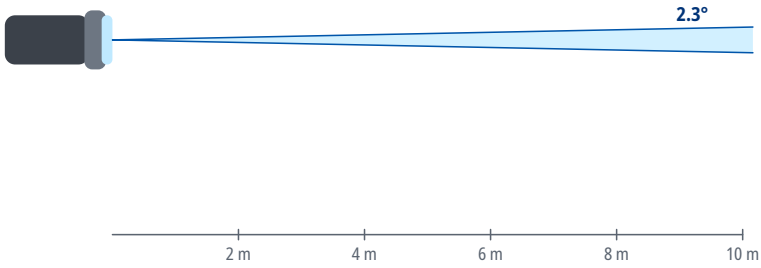
CH	Function	DMX	Description
1	Colors		Same as CH 1 in the mode “22CH” (p. 11)
2	Shutter	0–3	Closed
		4–103	Strobe slow to fast
		104–107	Open
		108–207	Fade strobe slow to fast

CH	Function	DMX	Description
2	Shutter (continued)	208–212	Open
		213–251	Randam slow to fast
		252–255	Open
3	Dimmer		Same as CH 3 in the mode “22CH” (p. 12)
4	Gobo		Same as CH 4 in the mode “22CH” (p. 12)
5	Prism		Same as CH 5 in the mode “22CH” (p. 13)
6	Prism Rotation		Same as CH 6 in the mode “22CH” (p. 13)
7	Prism 2		Same as CH 7 in the mode “22CH” (p. 13)
8	Frost	0–127	None
		128–255	Frost
9	Focus	0–255	
10	Pan		Same as CH 10 in the mode “22CH” (p. 13)
11	Pan Fine	0–255	Fine adjustment of CH 10
12	Tilt		Same as CH 12 in the mode “22CH” (p. 13)
13	Tilt Fine	0–255	Fine adjustment of CH 12
14	Gobo 2		Same as CH 14 in the mode “22CH” (p. 13)
15	Beam Reset		Same as CH 15 in the mode “22CH” (p. 13)
16	Lamp Control	0–255	
17	Speed Pan/Tilt	0–255	
18	Color Wheel Speed	0–255	

10 Technical specifications

Parameter	Value
Light	
Light source	LED
Movement	
Pan	540°
Tilt	270°
Control	
DMX connection	3-pin XLR IN/OUT
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	850 W
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	12.4 kg
Operating environment	
Operating temperature	0 to 40 °C

Spot diameter



Distance	Ø 2.3°
2 m	0.08 m
4 m	0.16 m
6 m	0.24 m
8 m	0.32 m
10 m	0.4 m
15 m	0.6 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.