DMX REFERENCE

B Narrow

Luxibel



Manufacturer	Luxibel
GDTF file	Luxibel_B_Narrow_54296.gdtf
GDTF revision	Release 1.7 · 2023-12-30
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1 About this manual

This document describes the B Narrow by Luxibel. It was compiled from the GDTF file Luxibel_B_Narrow_54296.gdtf from the GDTF-Share library.

File revision: “Release 1.7”.

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 Luxibel; 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	12 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
16 Channel Mode	16	32	1, 17, 33, 49, ...
14 Channel Mode	14	36	1, 15, 29, 43, ...
12 Channel Mode	12	42	1, 13, 25, 37, ...
10 Channel Mode	10	51	1, 11, 21, 31, ...

No light? Check these channels

- 16 Channel Mode: CH 6 Dimmer above 0; CH 7 Shutter at 0–7 “Open”
- 14 Channel Mode: CH 6 Dimmer above 0; CH 7 Shutter at 0–7 “Open”
- 12 Channel Mode: CH 4 Dimmer above 0; CH 5 Shutter at 0–7 “Open”
- 10 Channel Mode: CH 4 Dimmer above 0; CH 5 Shutter at 0–7 “Open”



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

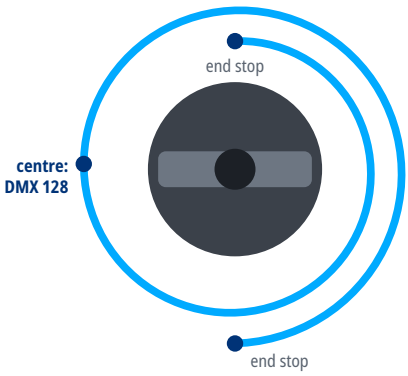
- The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
- Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts, 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

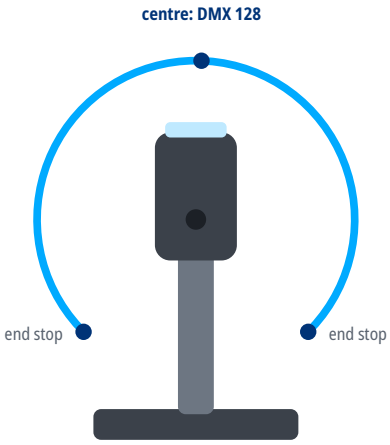
Pan 540°

top view



Tilt 270°

side view



5 Installation

⚠ WARNING

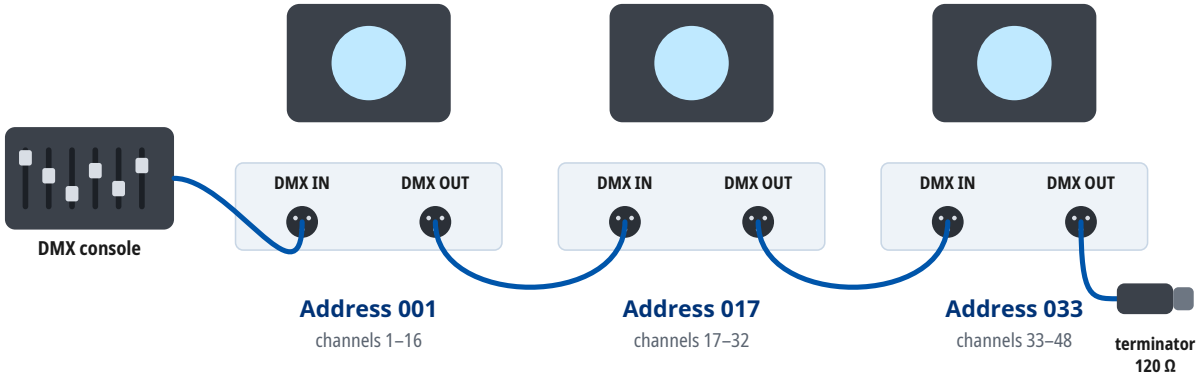
- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 12 kg.
- 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 16 Channel Mode: every unit occupies 16 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

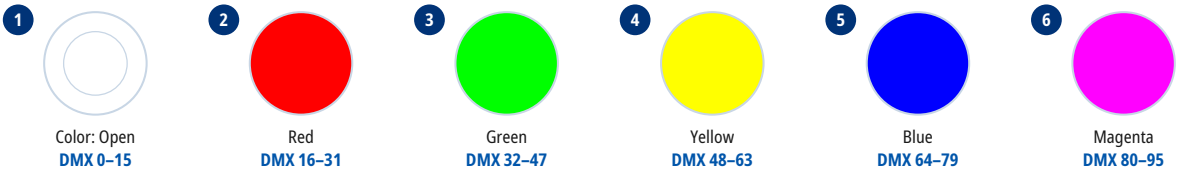
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “16 Channel Mode”: 16.
- Choose start addresses so that the channels of individual devices do not overlap and the last 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 “16 Channel Mode”, you can use, for example, the start addresses 1, 17, 33, 49.
- 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

	16 Channel Mode 16 channels	14 Channel Mode 14 channels	12 Channel Mode 12 channels	10 Channel Mode 10 channels
Pan / Tilt	1, 3	1, 3	1, 2	1, 2
Pan / Tilt resolution	16 bit	16 bit	8 bit	8 bit
Dimmer	6	6	4	4
Shutter / strobe	7	7	5	5
Color wheel	8	8	6	6
Gobo wheel	9, 10	9	7, 8	7
Gobo rotation	11		9	
Prism	13, 14	11, 12	11, 12	9, 10
Focus	12	10	10	8
Effects / macros	15	13		

Color wheel



1. Color: Open — DMX 0–15
2. Red — DMX 16–31
3. Green — DMX 32–47
4. Yellow — DMX 48–63
5. Blue — DMX 64–79
6. Magenta — DMX 80–95
7. Orange — DMX 96–111
8. Cyan — DMX 112–128

Gobo wheel 1



1. Static Gobo: Open — DMX 0–6
2. Static Gobo: Smallest hole — DMX 7–13
3. Static Gobo: Small hole — DMX 14–20
4. Static Gobo: Medium hole — DMX 21–27
5. Static Gobo: Hole — DMX 28–34
6. Static Gobo: Fan 1 — DMX 35–41
7. Static Gobo: Fan 2 — DMX 42–48
8. Static Gobo: 4 small holes — DMX 49–55
9. Ring — DMX 56–64

Gobo wheel 2

1

Rotating Gobo: Open
DMX 0–15

2

Rotation hole
DMX 16–31

3

Diabolo
DMX 32–47

4

4 flames
DMX 48–63

5

Star nevel
DMX 64–79

6

Red spirals
DMX 80–95

7

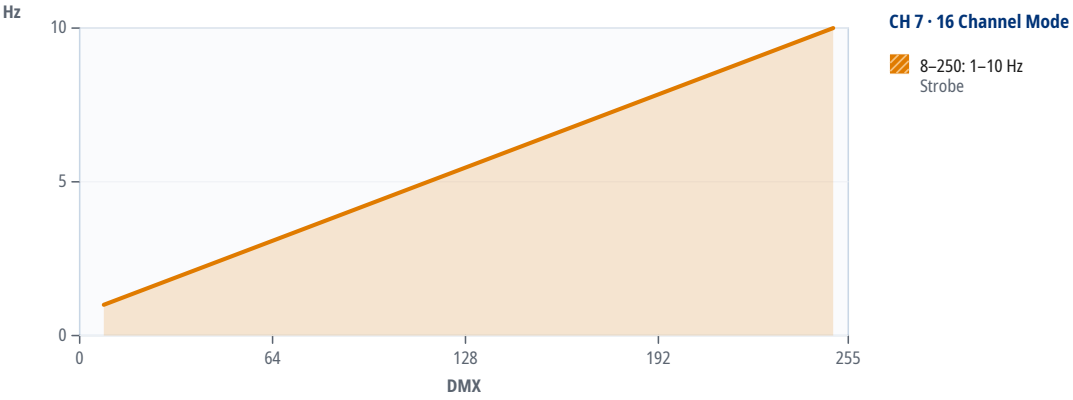
Blue windmill
DMX 96–128

Prism

1

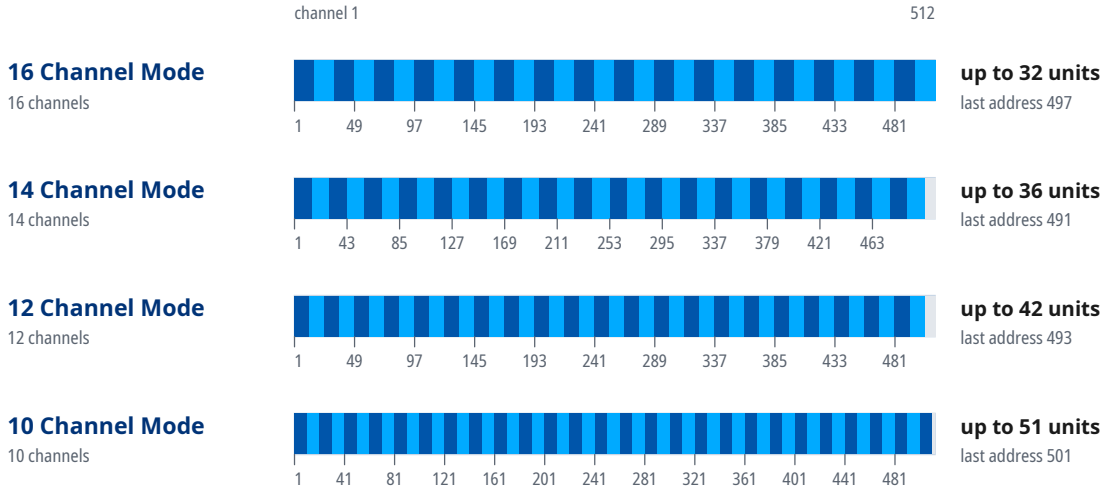
8 facets
Prism
DMX 64–255

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “16 Channel Mode”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	81	11	161	16	241
2	17	7	97	12	177	17	257
3	33	8	113	13	193	18	273
4	49	9	129	14	209	19	289
5	65	10	145	15	225	20	305

Mode 16 Channel Mode

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 6 Dimmer above 0; CH 7 Shutter at 0–7 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255, CH 7 Shutter 0.

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	Speed Pan/Tilt	0	Fast
		1–254	Fast ... Slow
		255	Slow
6	Dimmer	0	Closed
		1–254	Closed ... Open
		255	Open
7	Shutter	0–7	Open
		8	Strobe: Slow
		9–249	Strobe: Slow ... Fast
		250	Strobe: Fast
		251–255	No function
8	Colors	0–15	Color: Open

CH	Function	DMX	Description
8	Colors (continued)	16–31	Red
		32–47	Green
		48–63	Yellow
		64–79	Blue
		80–95	Magenta
		96–111	Orange
		112–127	Cyan
		128	Color Wheel Spin CW: Slow
		129–190	Color Wheel Spin CW: Slow ... Fast
		191	Color Wheel Spin CW: Fast
		192	Color Wheel Spin CCW: Slow
		193–254	Color Wheel Spin CCW: Slow ... Fast
		255	Color Wheel Spin CCW: Fast
9	Gobo	0–6	Static Gobo: Open
		7–13	Static Gobo: Smallest hole
		14–20	Static Gobo: Small hole
		21–27	Static Gobo: Medium hole
		28–34	Static Gobo: Hole
		35–41	Static Gobo: Fan 1
		42–48	Static Gobo: Fan 2
		49–55	Static Gobo: 4 small holes
		56–63	Static Gobo: Ring
		64–70	Static Gobo Wheel Shake: Ring (0.5–3 Hz)
		71–77	Static Gobo Wheel Shake: 4 small holes (0.5–3 Hz)
		78–84	Static Gobo Wheel Shake: Fan 2 (0.5–3 Hz)
		85–91	Static Gobo Wheel Shake: Fan 1 (0.5–3 Hz)
		92–98	Static Gobo Wheel Shake: Hole (0.5–3 Hz)
		99–105	Static Gobo Wheel Shake: Medium hole (0.5–3 Hz)
		106–112	Static Gobo Wheel Shake: Small hole (0.5–3 Hz)
		113–119	Static Gobo Wheel Shake: Smallest hole (0.5–3 Hz)
		120–127	No function
		128	Static Gobo Wheel Spin CW: Slow
		129–190	Static Gobo Wheel Spin CW: Slow ... Fast
		191	Static Gobo Wheel Spin CW: Fast
		192	Static Gobo Wheel Spin CCW: Slow
		193–254	Static Gobo Wheel Spin CCW: Slow ... Fast
		255	Static Gobo Wheel Spin CCW: Fast
10	Gobo 2	0–15	Rotating Gobo: Open
		16–31	Rotation hole
		32–47	Diabolo
		48–63	4 flames
		64–79	Star nevel

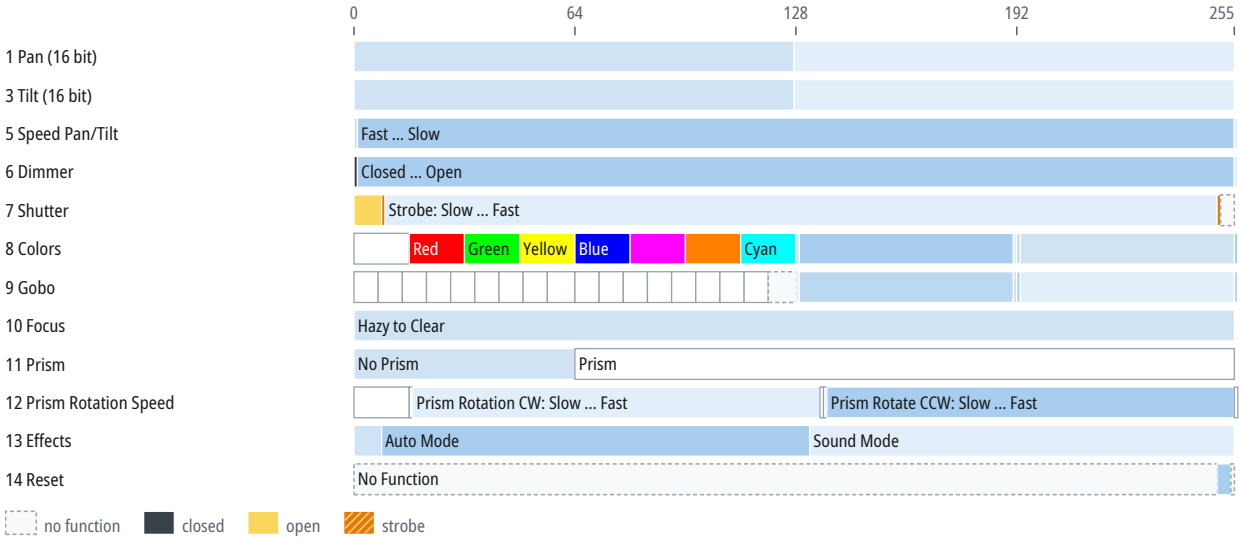
CH	Function	DMX	Description
10	Gobo 2 (continued)	80–95	Red spirals
		96–127	Blue windmill
		128	Rotating Gobo Wheel Spin CW: Slow
		129–190	Rotating Gobo Wheel Spin CW: Slow ... Fast
		191	Rotating Gobo Wheel Spin CW: Fast
		192	Static Gobo Wheel Spin CCW: Slow
		193–254	Static Gobo Wheel Spin CCW: Slow ... Fast
		255	Static Gobo Wheel Spin CCW: Fast
11	Gobo 2 Rotation	0–14	No function
		15–95	Index (180°)
		96–135	0-90 (0.5–3 Hz)
		136–155	0-180 (0.5–3 Hz)
		156–175	0-270 (0.5–3 Hz)
		176	Gobo Rotation CW: Slow
		177–214	Gobo Rotation CW: Slow ... Fast
		215	Gobo Rotation CW: Fast
		216	Gobo Rotation CCW: Slow
		217–254	Gobo Rotation CCW: Slow ... Fast
		255	Gobo Rotation CCW: Fast
12	Focus	0–255	Hazy to Clear
13	Prism	0–63	No Prism
		64–255	Prism
14	Prism Rotation Speed	0–15	Prism: Stop
		16	Prism Rotation CW: Slow
		17–134	Prism Rotation CW: Slow ... Fast
		135	Prism Rotation CW: Fast
		136	Prism Rotate CCW: Slow
		137–254	Prism Rotate CCW: Slow ... Fast
		255	Prism Rotate CCW: Fast
15	Effects	0–7	No Action
		8–131	Auto Mode
		132–255	Sound Mode
16	Reset	0–249	No Function
		250–253	Reset
		254–255	No function

Mode 14 Channel Mode

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 6 Dimmer above 0; CH 7 Shutter at 0–7 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255, CH 7 Shutter 0.

Channel functions at a glance

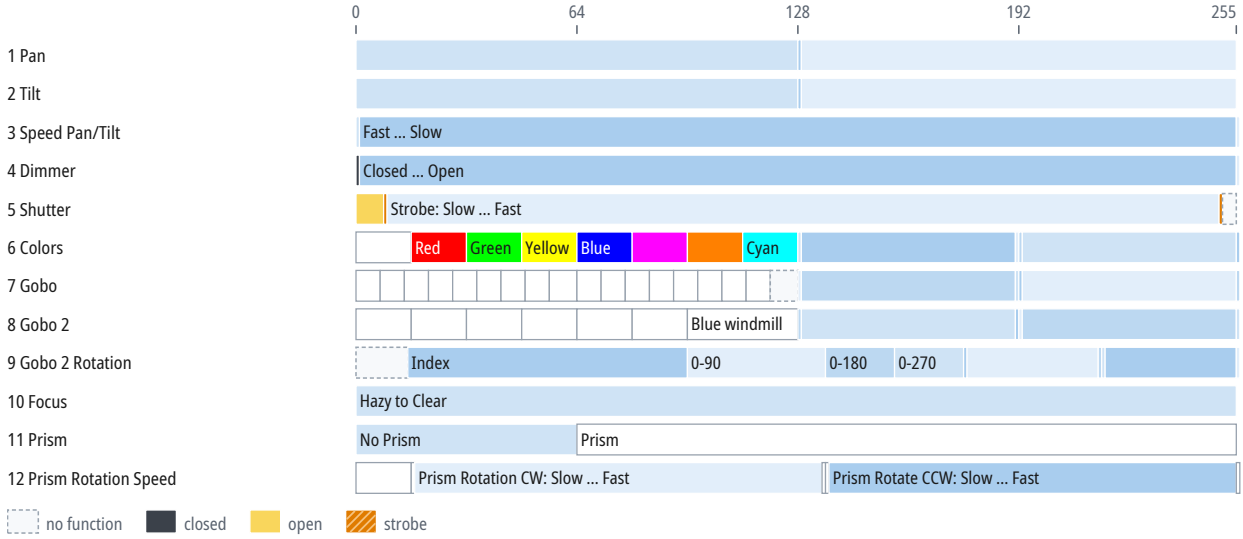


CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “16 Channel Mode” (p. 10)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “16 Channel Mode” (p. 10)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Same as CH 5 in the mode “16 Channel Mode” (p. 10)
6	Dimmer		Same as CH 6 in the mode “16 Channel Mode” (p. 10)
7	Shutter		Same as CH 7 in the mode “16 Channel Mode” (p. 10)
8	Colors		Same as CH 8 in the mode “16 Channel Mode” (p. 10)
9	Gobo		Same as CH 9 in the mode “16 Channel Mode” (p. 11)
10	Focus	0–255	Hazy to Clear
11	Prism		Same as CH 13 in the mode “16 Channel Mode” (p. 12)
12	Prism Rotation Speed		Same as CH 14 in the mode “16 Channel Mode” (p. 12)
13	Effects		Same as CH 15 in the mode “16 Channel Mode” (p. 12)
14	Reset		Same as CH 16 in the mode “16 Channel Mode” (p. 12)

Mode 12 Channel Mode

If the device receives DMX in this mode but gives no light, check these channels: CH 4 Dimmer above 0; CH 5 Shutter at 0–7 “Open”. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 255, CH 5 Shutter 0.

Channel functions at a glance

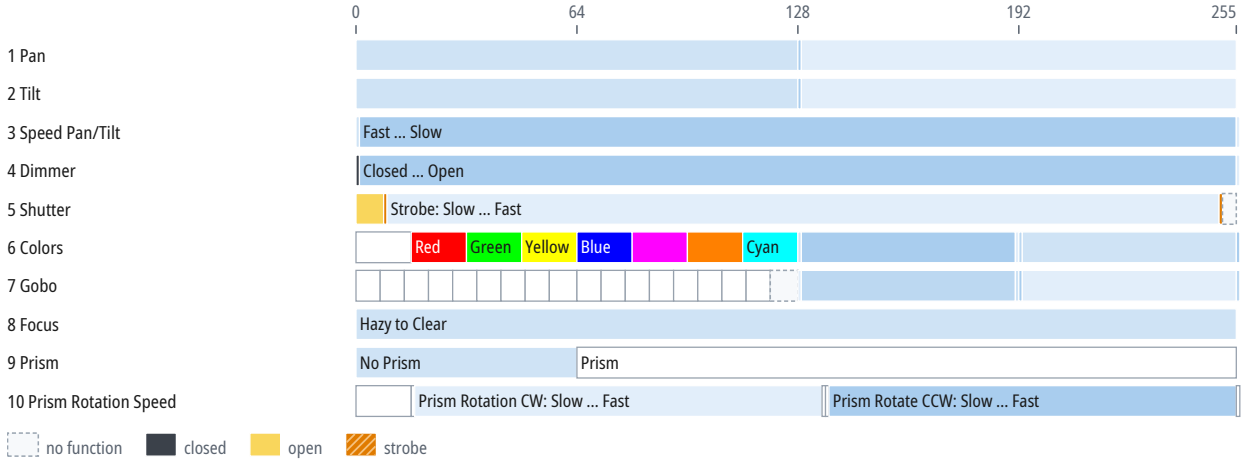


CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		128	Home
		129–255	Pan 1
2	Tilt	0–127	Tilt 1
		128	Home
		129–255	Tilt 1
3	Speed Pan/Tilt		Same as CH 5 in the mode “16 Channel Mode” (p. 10)
4	Dimmer		Same as CH 6 in the mode “16 Channel Mode” (p. 10)
5	Shutter		Same as CH 7 in the mode “16 Channel Mode” (p. 10)
6	Colors		Same as CH 8 in the mode “16 Channel Mode” (p. 10)
7	Gobo		Same as CH 9 in the mode “16 Channel Mode” (p. 11)
8	Gobo 2		Same as CH 10 in the mode “16 Channel Mode” (p. 11)
9	Gobo 2 Rotation		Same as CH 11 in the mode “16 Channel Mode” (p. 12)
10	Focus	0–255	Hazy to Clear
11	Prism		Same as CH 13 in the mode “16 Channel Mode” (p. 12)
12	Prism Rotation Speed		Same as CH 14 in the mode “16 Channel Mode” (p. 12)

Mode 10 Channel Mode

If the device receives DMX in this mode but gives no light, check these channels: CH 4 Dimmer above 0; CH 5 Shutter at 0–7 “Open”. The GDTF file gives these values for a console's Highlight function: CH 4 Dimmer 255, CH 5 Shutter 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “12 Channel Mode” (p. 14)
2	Tilt		Same as CH 2 in the mode “12 Channel Mode” (p. 14)
3	Speed Pan/Tilt		Same as CH 5 in the mode “16 Channel Mode” (p. 10)
4	Dimmer		Same as CH 6 in the mode “16 Channel Mode” (p. 10)
5	Shutter		Same as CH 7 in the mode “16 Channel Mode” (p. 10)
6	Colors		Same as CH 8 in the mode “16 Channel Mode” (p. 10)
7	Gobo		Same as CH 9 in the mode “16 Channel Mode” (p. 11)
8	Focus	0–255	Hazy to Clear
9	Prism		Same as CH 13 in the mode “16 Channel Mode” (p. 12)
10	Prism Rotation Speed		Same as CH 14 in the mode “16 Channel Mode” (p. 12)

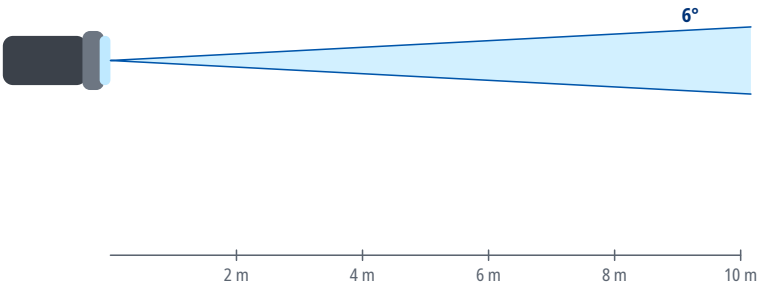
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	150 W
Luminous flux	2,800 lm
Color temperature	6,000 K
Color rendering index (CRI)	100
Optics	
Beam angle	6°
Movement	
Pan	540°
Tilt	270°
Control	
DMX connection	5-pin XLR IN/OUT
Electrical	
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	12 kg
Operating environment	
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–10 Hz
Color wheel rotation	up to 270 °/s (45 rpm)
Gobo wheel 1 rotation	up to 270 °/s (45 rpm)
Gobo wheel 2 rotation	up to 270 °/s (45 rpm)
Gobo 2 rotation	up to 540 °/s (90 rpm)
Prism rotation	up to 360 °/s (60 rpm)

Spot diameter



Distance	Ø 6°
2 m	0.21 m
4 m	0.42 m
6 m	0.63 m
8 m	0.84 m
10 m	1 m
15 m	1.6 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.