DMX REFERENCE

PRO LUX LED HOTBEAM 650 CMY

PRO LUX

Manufacturer	PRO LUX
GDTF file	Pro_Lux_PRO_LUX_LED_HOTBEAM_650_CMY_126791.gdtf
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1 About this manual

This document describes the PRO LUX LED HOTBEAM 650 CMY by PRO LUX. It was compiled from the GDTF file Pro_Lux_PRO_LUX_LED_HOTBEAM_650_CMY_126791.gdtf from the GDTF-Share library.

File revision: “rev1”.

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 PRO LUX; 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	500 W
Weight	22.5 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
22ch	22	23	1, 23, 45, 67, ...
26ch	26	19	1, 27, 53, 79, ...

No light? Check these channels

- 22ch: CH 6 Shutter at 104–107, 208–212 or 252–255 “Open”
- 26ch: CH 7 Shutter at 104–107, 208–212 or 252–255 “Open”


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.

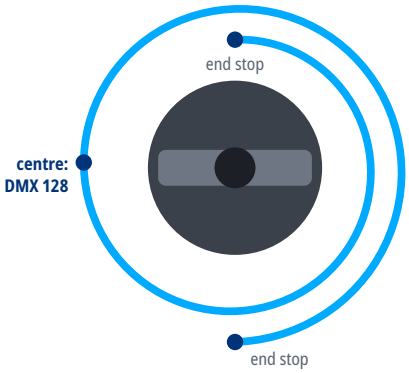
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do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

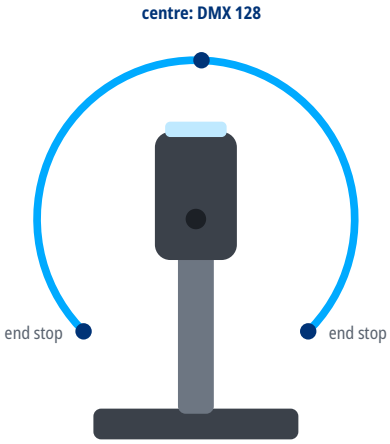
Pan 540°

top view



Tilt 270°

side view



5 Installation

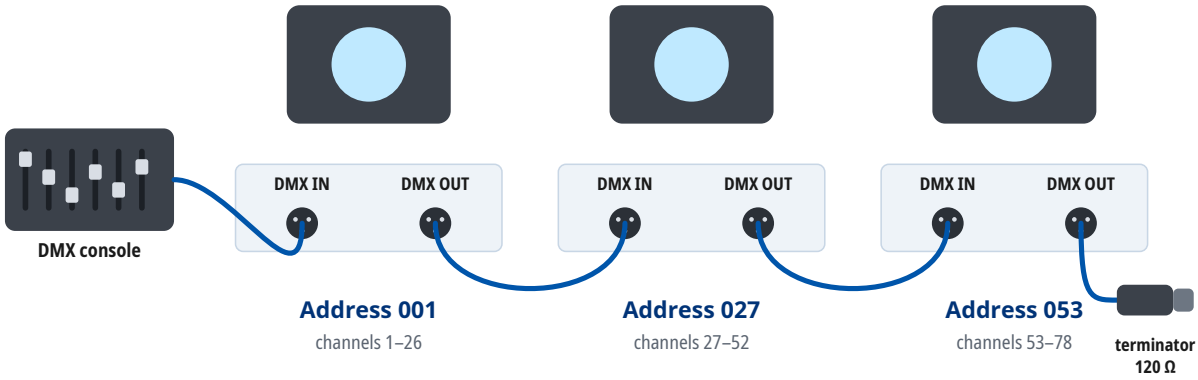
⚠ **WARNING**

- 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: 22.5 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 26ch: every unit occupies 26 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

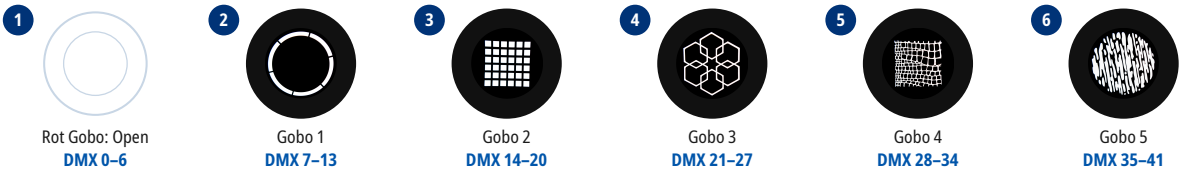
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “26ch”: 26.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “26ch”, you can use, for example, the start addresses 1, 27, 53, 79.
- 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

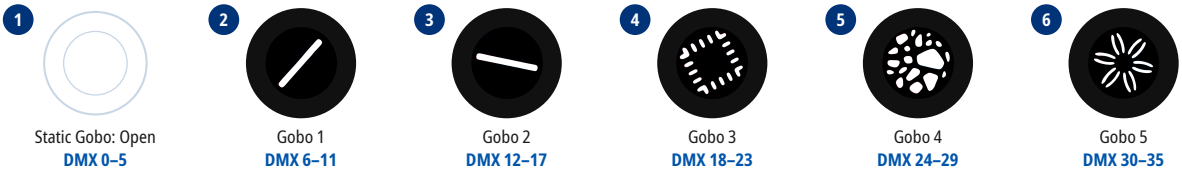
	22ch 22 channels	26ch 26 channels
Pan / Tilt	1, 3	1, 3
Dimmer	5	6
Shutter / strobe	6	7
Color mixing	8–10	9–11
Color temperature	11	12
Color wheel	7	8
Gobo wheel	12, 13	13, 14
Gobo rotation	14	15
Prism	15–18	17–20
Frost	19	21
Zoom	20	23
Focus	21	24

Gobo wheel 1



1 Rot Gobo: Open — DMX 0–6
2 Gobo 1 — DMX 7–13
3 Gobo 2 — DMX 14–20
4 Gobo 3 — DMX 21–27
5 Gobo 4 — DMX 28–34
6 Gobo 5 — DMX 35–41
7 Gobo 6 — DMX 42–48
8 Gobo 7 — DMX 49–55
9 Gobo 8 — DMX 56–63

Gobo wheel 2



1 Static Gobo: Open — DMX 0–5
2 Gobo 1 — DMX 6–11
3 Gobo 2 — DMX 12–17
4 Gobo 3 — DMX 18–23
5 Gobo 4 — DMX 24–29
6 Gobo 5 — DMX 30–35
7 Gobo 6 — DMX 36–41
8 Gobo 7 — DMX 42–47
9 Gobo 8 — DMX 48–53
10 Gobo 9 — DMX 54–59
11 Gobo 10 — DMX 60–65
12 Gobo 11 — DMX 66–72

Color wheel

1 Color: Open
DMX 0–9

2 Red
DMX 10–19

3 Green
DMX 20–29

4 Blue
DMX 30–39

5 Yellow
DMX 40–49

6 Cyan
DMX 50–59

7 Magenta
DMX 60–69

8 Amber
DMX 70–79

9 Open+Red
DMX 80–89

10 Red+Green
DMX 90–99

11 Green+Blue
DMX 100–109

12 Blue+Yellow
DMX 110–119

13 Yellow+Cyan
DMX 120–129

14 Cyan+Magenta
DMX 130–139

15 Magenta+Amber
DMX 140–149

16 Amber+CTO
DMX 150–160

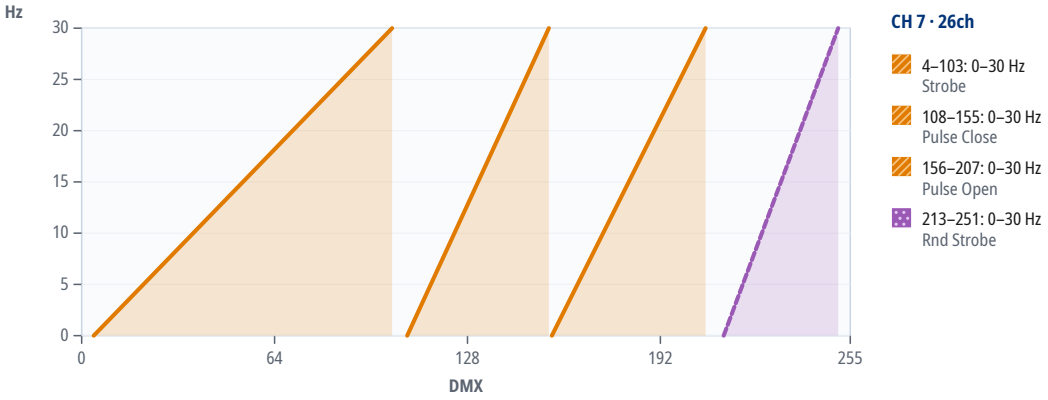
Prism

1 Prism 1 Off
CH 17: DMX 0–127

2 8 facets
Prism 1 On
CH 17: DMX 128–255

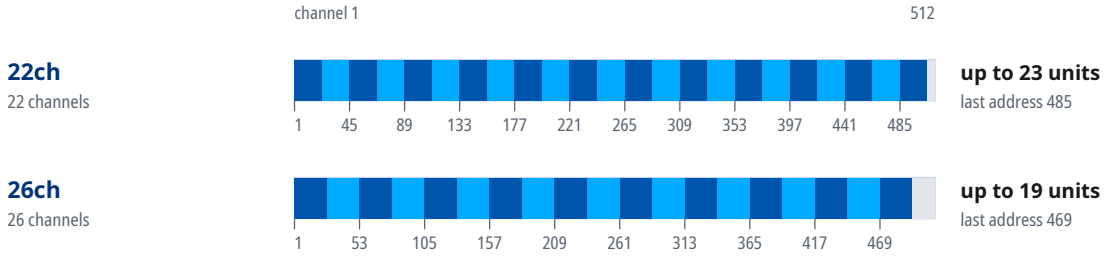
3 5 facets
Prism 2 On
CH 19: DMX 128–255

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “26ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	131	11	261	16	391
2	27	7	157	12	287	17	417
3	53	8	183	13	313	18	443
4	79	9	209	14	339	19	469
5	105	10	235	15	365	20	U2 · 1

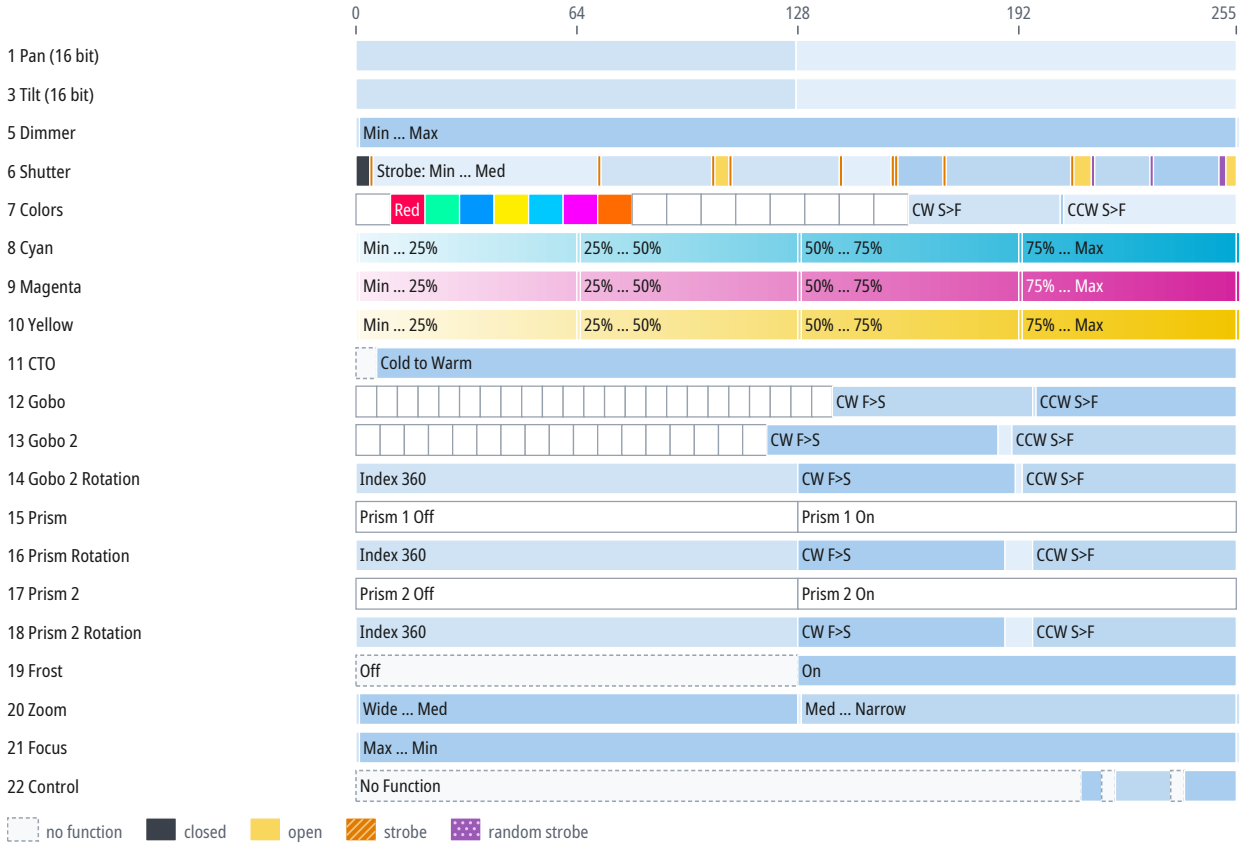
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 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 6 Shutter at 104–107, 208–212 or 252–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 5 Dimmer 255, CH 6 Shutter 255, CH 7 Colors 0, CH 8 Cyan 0, CH 9 Magenta 0, CH 10 Yellow 0, CH 11 CTO 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan
		128	Centre
		128–255	Pan
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Tilt
		128	Centre
		128–255	Tilt
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Dimmer	0	Min
		1–254	Min ... Max
		255	Max
6	Shutter	0–3	Closed
		4	Strobe: Min

CH	Function	DMX	Description
6	Shutter (continued)	5–69	Strobe: Min ... Med
		70	Strobe: Med
		71–102	Strobe: Med ... Max
		103	Strobe: Max
		104–107	Open
		108	Pulse Close: Min
		109–139	Pulse Close: Min ... Med
		140	Pulse Close: Med
		141–154	Pulse Close: Med ... Max
		155	Pulse Close: Max
		156	Pulse Open: Min
		157–169	Pulse Open: Min ... Med
		170	Pulse Open: Med
		171–206	Pulse Open: Med ... Max
		207	Pulse Open: Max
		208–212	Open
		213	Rnd Strobe: Min
		214–229	Rnd Strobe: Min ... Med
		230	Rnd Strobe: Med
		231–249	Rnd Strobe: Med ... Max
		250–251	Rnd Strobe: Max
		252–255	Open
7	Colors	0–9	Color: Open
		10–19	Red
		20–29	Green
		30–39	Blue
		40–49	Yellow
		50–59	Cyan
		60–69	Magenta
		70–79	Amber
		80–89	Open+Red
		90–99	Red+Green
		100–109	Green+Blue
		110–119	Blue+Yellow
		120–129	Yellow+Cyan
		130–139	Cyan+Magenta
		140–149	Magenta+Amber
		150–159	Amber+CTO
		160–203	CW S>F (470.3–0.1 °/s)
		204	Color 1 Wheel Spin: Stop
		205–255	CCW S>F (0.1–470.3 °/s)
8	Cyan	0	Min

CH	Function	DMX	Description
8	Cyan (continued)	1–63	Min … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … Max
		255	Max
9	Magenta	0	Min
		1–63	Min … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … Max
		255	Max
10	Yellow	0	Min
		1–63	Min … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … Max
		255	Max
11	CTO	0–5	Off
		6–255	Cold to Warm (8500–3000 K)
12	Gobo	0–5	Static Gobo: Open
		6–11	Gobo 1
		12–17	Gobo 2
		18–23	Gobo 3
		24–29	Gobo 4
		30–35	Gobo 5
		36–41	Gobo 6
		42–47	Gobo 7
		48–53	Gobo 8
		54–59	Gobo 9
		60–65	Gobo 10
		66–71	Gobo 11
		72–77	Open Shake (0.14–2.5 Hz)
		78–83	Gobo 1 Shake (0.14–2.5 Hz)

CH	Function	DMX	Description
12	Gobo (continued)	84–89	Gobo 2 Shake (0.14–2.5 Hz)
		90–95	Gobo 3 Shake (0.14–2.5 Hz)
		96–101	Gobo 4 Shake (0.14–2.5 Hz)
		102–107	Gobo 5 Shake (0.14–2.5 Hz)
		108–113	Gobo 6 Shake (0.14–2.5 Hz)
		114–119	Gobo 7 Shake (0.14–2.5 Hz)
		120–125	Gobo 8 Shake (0.14–2.5 Hz)
		126–131	Gobo 9 Shake (0.14–2.5 Hz)
		132–137	Gobo 10 Shake (0.14–2.5 Hz)
		138–195	CW F>S (188–0.1 °/s)
		196	Static Gobo Wheel Spin: Stop
		197–255	CCW S>F (0.1–188 °/s)
13	Gobo 2	0–6	Rot Gobo: Open
		7–13	Gobo 1
		14–20	Gobo 2
		21–27	Gobo 3
		28–34	Gobo 4
		35–41	Gobo 5
		42–48	Gobo 6
		49–55	Gobo 7
		56–62	Gobo 8
		63–69	Gobo 1 Shake (0.14–2.5 Hz)
		70–76	Gobo 2 Shake (0.14–2.5 Hz)
		77–83	Gobo 3 Shake (0.14–2.5 Hz)
		84–90	Gobo 4 Shake (0.14–2.5 Hz)
		91–97	Gobo 5 Shake (0.14–2.5 Hz)
		98–104	Gobo 6 Shake (0.14–2.5 Hz)
		105–111	Gobo 7 Shake (0.14–2.5 Hz)
		112–118	Gobo 8 Shake (0.14–2.5 Hz)
		119–185	CW F>S (188–0.1 °/s)
		186–189	Rot Gobo Wheel Spin: Stop
		190–255	CCW S>F (0.1–188 °/s)
14	Gobo 2 Rotation	0–127	Index 360 (360°)
		128–190	CW F>S (56.6–0.1 °/s)
		191–192	Gobo 2 Rotation: Stop
		193–255	CCW S>F (0.1–56.6 °/s)
15	Prism	0–127	Prism 1 Off
		128–255	Prism 1 On
16	Prism Rotation	0–127	Index 360 (360°)
		128–187	CW F>S (180–0.1 °/s)
		188–195	Prism 1 Rotation: Stop
		196–255	CCW S>F (0.1–180 °/s)

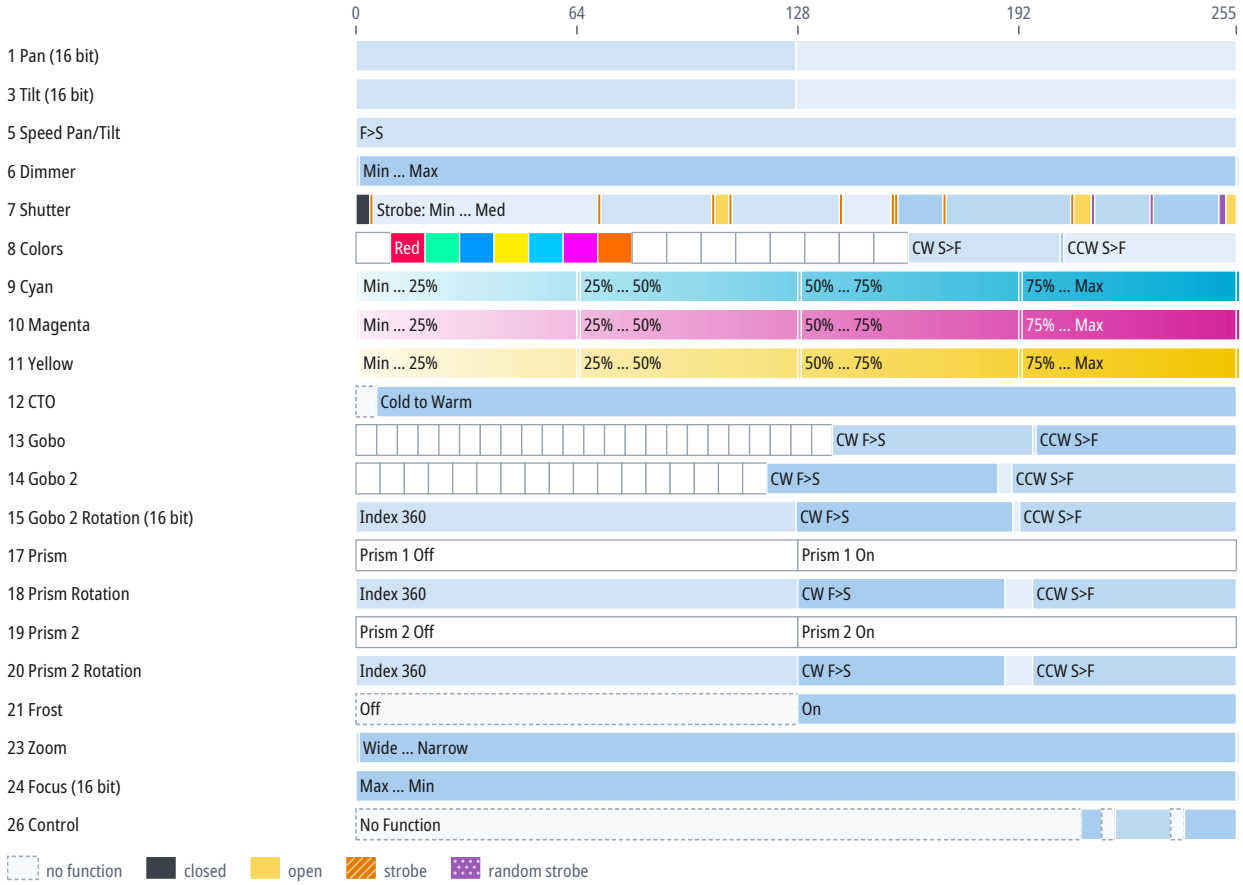
CH	Function	DMX	Description
17	Prism 2	0–127	Prism 2 Off
		128–255	Prism 2 On
18	Prism 2 Rotation	0–127	Index 360 (360°)
		128–187	CW F>S (180–0.1 °/s)
		188–195	Prism 2 Rotation: Stop
		196–255	CCW S>F (0.1–180 °/s)
19	Frost	0–127	Off
		128–255	On
20	Zoom	0	Wide
		1–127	Wide ... Med
		128	Med
		129–254	Med ... Narrow
		255	Narrow
21	Focus	0	Max
		1–254	Max ... Min
		255	Min
22	Control	0–209	No Function
		210–215	Reset P/T
		216–219	No Function
		220–235	Gobo Rest
		236–239	No Function
		240–255	Reset All

Mode 26ch

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 7 Shutter at 104–107, 208–212 or 252–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255, CH 7 Shutter 255, CH 8 Colors 0, CH 9 Cyan 0, CH 10 Magenta 0, CH 11 Yellow 0, CH 12 CTO 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “22ch” (p. 11)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “22ch” (p. 11)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	F>S
6	Dimmer		Same as CH 5 in the mode “22ch” (p. 11)
7	Shutter		Same as CH 6 in the mode “22ch” (p. 11)
8	Colors		Same as CH 7 in the mode “22ch” (p. 12)
9	Cyan		Same as CH 8 in the mode “22ch” (p. 12)
10	Magenta		Same as CH 9 in the mode “22ch” (p. 13)
11	Yellow		Same as CH 10 in the mode “22ch” (p. 13)
12	CTO		Same as CH 11 in the mode “22ch” (p. 13)
13	Gobo		Same as CH 12 in the mode “22ch” (p. 13)

CH	Function	DMX	Description
14	Gobo 2		Same as CH 13 in the mode “22ch” (p. 14)
15	Gobo 2 Rotation		Same as CH 14 in the mode “22ch” (p. 14)
16	Gobo 2 Rotation Fine	0–255	Fine adjustment of CH 15
17	Prism		Same as CH 15 in the mode “22ch” (p. 14)
18	Prism Rotation		Same as CH 16 in the mode “22ch” (p. 14)
19	Prism 2		Same as CH 17 in the mode “22ch” (p. 15)
20	Prism 2 Rotation	0–127	Index 360 (360°)
		128–187	CW F>S
		188–195	Prism 2 Rotation: Stop
		196–255	CCW S>F
21	Frost		Same as CH 19 in the mode “22ch” (p. 15)
23	Zoom	0	Wide
		1–254	Wide ... Narrow
		255	Narrow
24	Focus	0–255	Max ... Min
		255	Min
25	Focus Fine	0–255	Fine adjustment of CH 24
26	Control		Same as CH 22 in the mode “22ch” (p. 15)

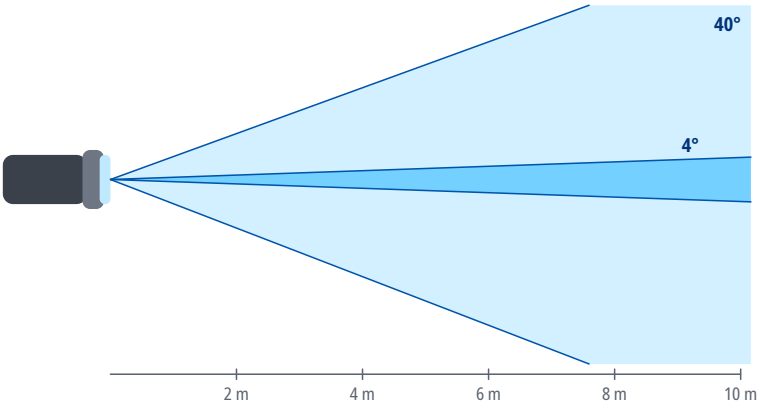
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	480 W
Luminous flux	57,000 lm
Color temperature	8,500 K
Color rendering index (CRI)	75
Optics	
Zoom	4–40°
Movement	
Pan	540°
Tilt	270°
Control	
DMX connection	3-pin XLR IN/OUT
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	500 W
Power connectors	powerCON TRUE1 IN/OUT
Dimensions and construction	
Weight	22.5 kg
Operating environment	
Operating temperature	-10 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	3000–8500 K
Strobe frequency	0–30 Hz
Color wheel rotation	up to 470 °/s (78 rpm)
Gobo wheel 1 rotation	up to 188 °/s (31 rpm)
Gobo wheel 2 rotation	up to 188 °/s (31 rpm)
Gobo 1 rotation	up to 56.6 °/s (9.4 rpm)
Prism rotation	up to 180 °/s (30 rpm)
Prism rotation	up to 180 °/s (30 rpm)

Spot diameter



Distance	Ø 4°	Ø 40°
2 m	0.14 m	1.5 m
4 m	0.28 m	2.9 m
6 m	0.42 m	4.4 m
8 m	0.56 m	5.8 m
10 m	0.7 m	7.3 m
15 m	1 m	10.9 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.