DMX REFERENCE

LED 800W Frame Spot Light

China



Manufacturer	China
GDTF file	China_LED_800W_Frame_Spot_Light_145722.gdtf
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1 About this manual

This document describes the LED 800W Frame Spot Light by China. It was compiled from the GDTF file China_LED_800W_Frame_Spot_Light_145722.gdtf from the GDTF-Share library.

File revision: “20260606”.

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.

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	945 W
Weight	37 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Basic	39	13	1, 40, 79, 118, ...

No light? Check these channels

- Basic: CH 6 Dimmer above 0; CH 8 Shutter at 0–3 “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.

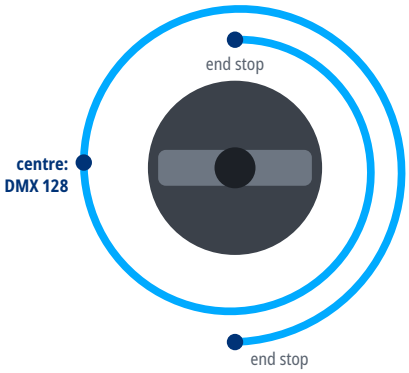
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do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

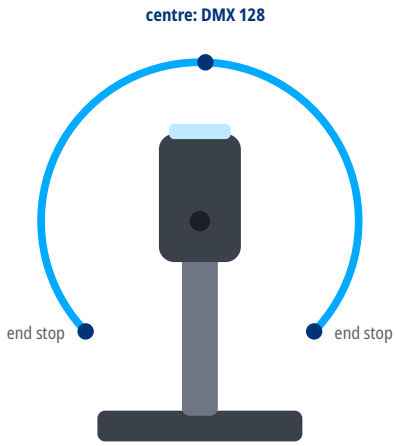
top view



full travel in 3.2 s

Tilt 268°

side view



full travel in 1.8 s

Full-travel times as stated in the GDTF file.

5 Installation

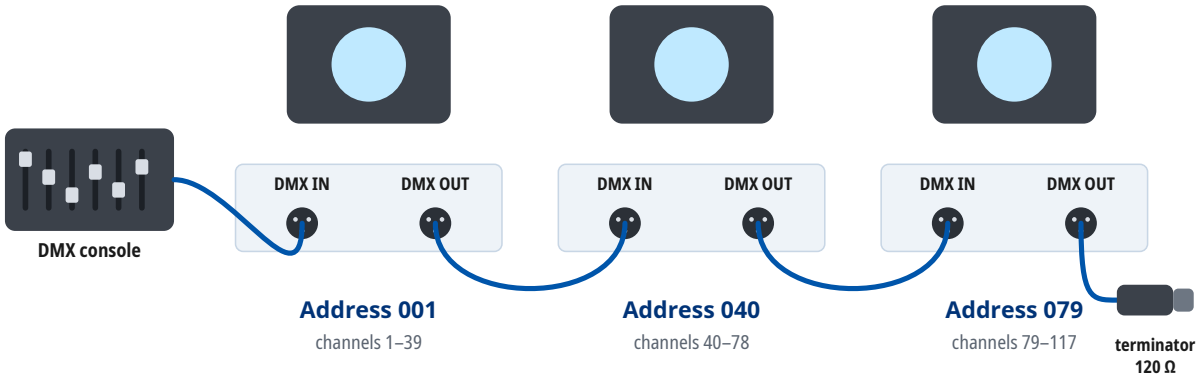
⚠ WARNING

- 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: 37 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 Basic: every unit occupies 39 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

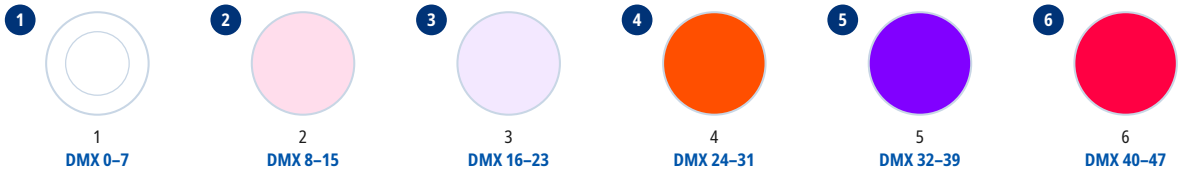
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Basic”: 39.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “Basic”, you can use, for example, the start addresses 1, 40, 79, 118.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.
- The device supports RDM (Remote Device Management), two-way communication with the controller over the DMX line.

8 Functions at a glance

Functions in each DMX mode

	Basic 39 channels
Pan / Tilt	1, 3
Dimmer	6
Shutter / strobe	8
Color mixing	9, 11, 13
Color temperature	15
Color wheel	17
Gobo wheel	18, 20
Gobo rotation	21
Prism	25, 26
Frost	27
Zoom	24
Focus	22
Iris	29
Animation wheel	19
Effects / macros	28

Color wheel



1	2	3	4	5	6
DMX 0–7	DMX 8–15	DMX 16–23	DMX 24–31	DMX 32–39	DMX 40–47

7	8
DMX 48–55	DMX 56–63

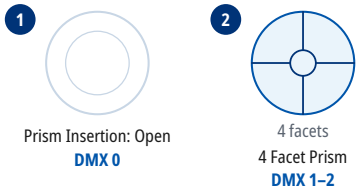
Gobo wheel 1

1 Open	DMX 0–9	5 Gobo 4	DMX 40–49	9 Gobo 8	DMX 80–89
2 Gobo 1	DMX 10–19	6 Gobo 5	DMX 50–59	10 Gobo 9	DMX 90–99
3 Gobo 2	DMX 20–29	7 Gobo 6	DMX 60–69		
4 Gobo 3	DMX 30–39	8 Gobo 7	DMX 70–79		

Gobo wheel 2

1 Open	DMX 0–14	4 Gobo 3	DMX 45–59	7 Gobo 6	DMX 90–104
2 Gobo 1	DMX 15–29	5 Gobo 4	DMX 60–74	8 Gobo 7	DMX 105–119
3 Gobo 2	DMX 30–44	6 Gobo 5	DMX 75–89		

Prism



Prism Insertion: Open
DMX 0

4 Facet Prism
DMX 1–2

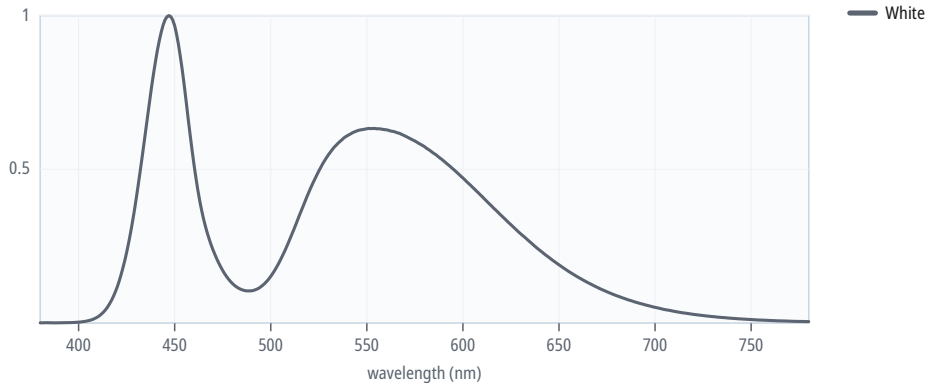
Animation wheel



Open

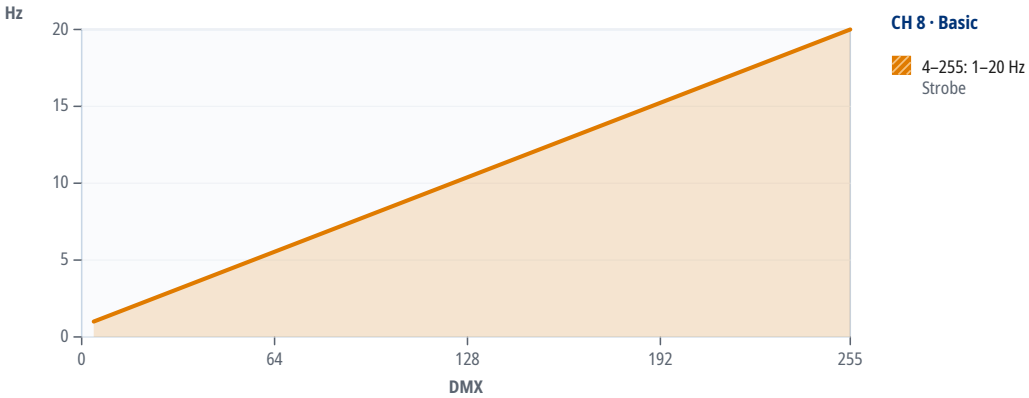
Animation Wheel

Spectra of the light sources



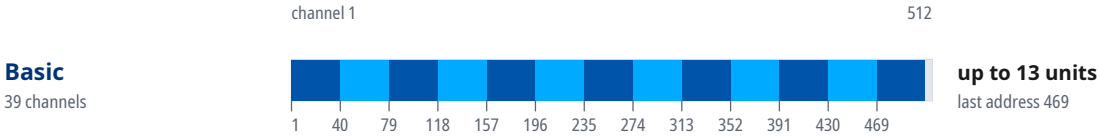
Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Basic”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	196	11	391	16	U2 · 79
2	40	7	235	12	430	17	U2 · 118
3	79	8	274	13	469	18	U2 · 157
4	118	9	313	14	U2 · 1	19	U2 · 196
5	157	10	352	15	U2 · 40	20	U2 · 235

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.

RDM personalities

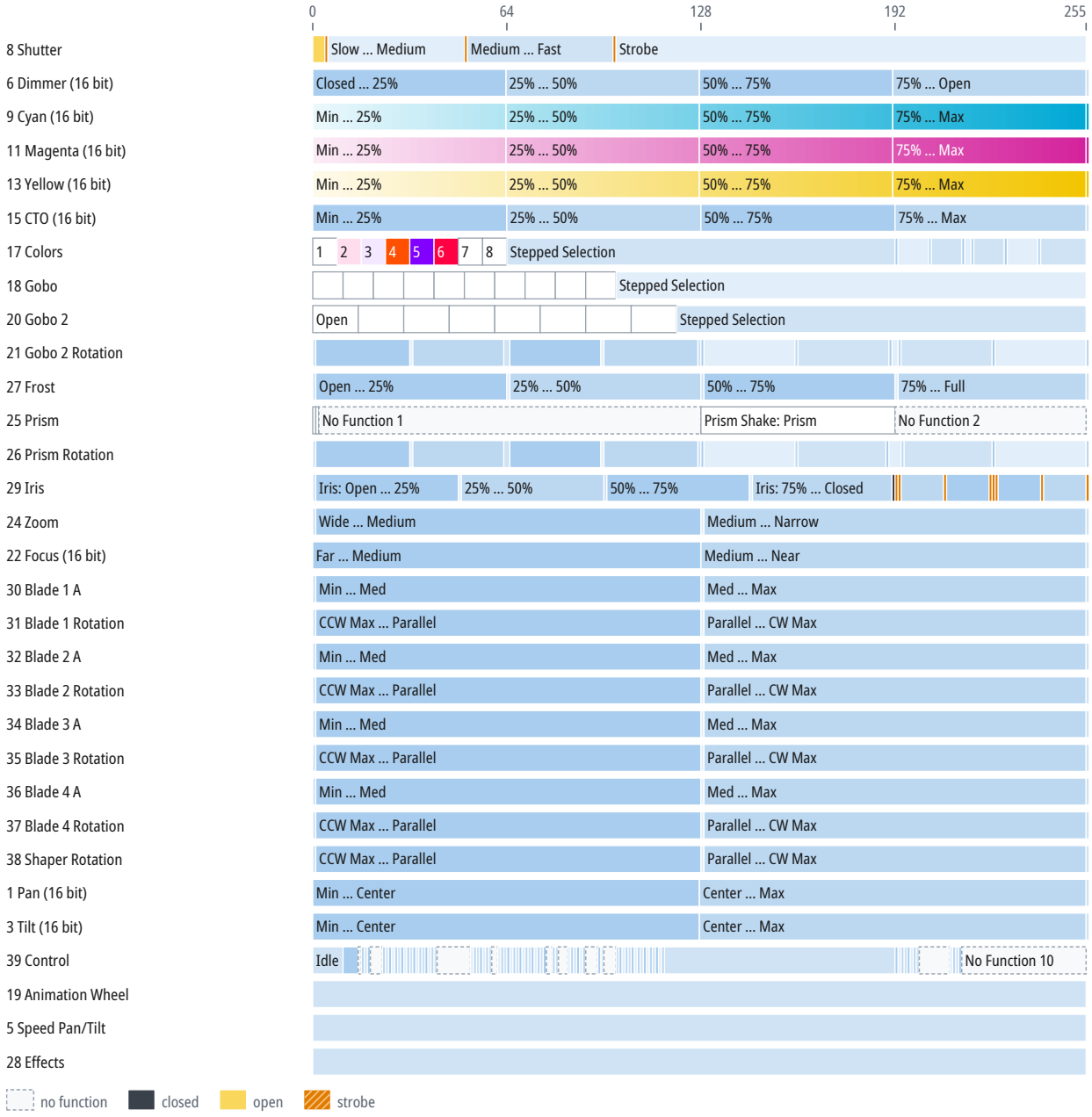
Mode	Channels	RDM personality
Basic	39	1

Mode Basic

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 8 Shutter at 0–3 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Dimmer 255, CH 8 Shutter 30, CH 9 Cyan 0, CH 11 Magenta 0, CH 13 Yellow 0, CH 15 CTO 0, CH 17 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Min ... Center
		128–255	Center ... Max
		255	Max
2	Pan Fine	0–255	Fine adjustment of CH 1

CH	Function	DMX	Description
3	Tilt	0–127	Min … Center
		128–255	Center … Max
		255	Max
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0–255	
6	Dimmer	0–63	Closed … 25%
		64–127	25% … 50%
		128–191	50% … 75%
		192–255	75% … Open
		255	Open
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Shutter	0–3	Shutter: Open
		4	Strobe: Slow
		5–49	Slow … Medium
		50	Medium
		51–98	Medium … Fast
		99	Strobe: Fast
		100–255	Strobe
9	Cyan	0–63	Min … 25%
		64–127	25% … 50%
		128–191	50% … 75%
		192–255	75% … Max
		255	Max
10	Cyan Fine	0–255	Fine adjustment of CH 9
11	Magenta	0–63	Min … 25%
		64–127	25% … 50%
		128–191	50% … 75%
		192–255	75% … Max
		255	Max
12	Magenta Fine	0–255	Fine adjustment of CH 11
13	Yellow	0–63	Min … 25%
		64–127	25% … 50%
		128–191	50% … 75%
		192–255	75% … Max
		255	Max
14	Yellow Fine	0–255	Fine adjustment of CH 13
15	CTO	0–64	Min … 25%
		64–128	25% … 50%
		128–192	50% … 75%
		192–255	75% … Max
		255	Max
16	CTO Fine	0–255	Fine adjustment of CH 15

CH	Function	DMX	Description
17	Colors	0–7	1
		8–15	2
		16–23	3
		24–31	4
		32–39	5
		40–47	6
		48–55	7
		56–63	8
		64–191	Stepped Selection
		192	CW Max
		193–202	CW Max ... CW Med
		203	CW Med
		204–213	CW Med ... CW Min
		214	CW Min
		215–216	Wheel Spin: Stop
		217	CCW Min
		218–227	CCW Min ... CCW Med
		228	CCW Med
		229–238	CCW Med ... CCW Max
		239	CCW Max
		240–255	Wheel Spin
18	Gobo		Stepped Selection
		0–9	Open
		10–19	Gobo 1
		20–29	Gobo 2
		30–39	Gobo 3
		40–49	Gobo 4
		50–59	Gobo 5
		60–69	Gobo 6
		70–79	Gobo 7
		80–89	Gobo 8
		90–99	Gobo 9
		100–255	Stepped Selection
19	Animation Wheel	0–255	
20	Gobo 2		Stepped Selection
		0–14	Open
		15–29	Gobo 1
		30–44	Gobo 2
		45–59	Gobo 3
		60–74	Gobo 4
		75–89	Gobo 5
		90–104	Gobo 6

CH	Function	DMX	Description
20	Gobo 2 (continued)	105–119	Gobo 7
		120–255	Stepped Selection
21	Gobo 2 Rotation	0	180 deg
		1–31	180 deg ... 90 deg
		32	90 deg
		33–62	90 deg ... 0 deg
		63–64	0 deg
		65–94	0 deg ... -90 deg
		95	-90 deg
		96–126	-90 deg ... -180 deg
		127	-180 deg
		128	CW Max
		129–158	CW Max ... CW Med
		159	CW Med
		160–189	CW Med ... CW Min
		190	CW Min
		191–192	Gobo Rotation: Stop
		193	CCW Min
		194–223	CCW Min ... CCW Med
		224	CCW Med
		225–254	CCW Med ... CCW Max
		255	CCW Max
22	Focus	0–128	Far ... Medium
		128–255	Medium ... Near
		255	Near
23	Focus Fine	0–255	Fine adjustment of CH 22
24	Zoom	0	Wide
		1–127	Wide ... Medium
		128	Medium
		129–254	Medium ... Narrow
		255	Narrow
25	Prism	0	Prism Insertion: Open
		1	Prism Insertion: Prism
		2–127	No Function 1
		128–191	Prism Shake: Prism (0.13–0.83 Hz)
		192–255	No Function 2
26	Prism Rotation	0	-180 deg
		1–31	-180 deg ... -90 deg
		32	-90 deg
		33–62	-90 deg ... 0 deg
		63–64	0 deg
		65–94	0 deg ... 90 deg

CH	Function	DMX	Description
26	Prism Rotation (continued)	95	90 deg
		96–126	90 deg ... 180 deg
		127	180 deg
		128	CW Max
		129–158	CW Max ... CW Med
		159	CW Med
		160–188	CW Med ... CW Min
		189	CW Min
		190–193	Prism Rotation: Stop
		194	CCW Min
		195–223	CCW Min ... CCW Med
		224	CCW Med
		225–254	CCW Med ... CCW Max
		255	CCW Max
27	Frost	0	Open
		1–63	Open ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... Full
		255	Full
28	Effects	0–255	
29	Iris	0	Iris: Open
		1–47	Iris: Open ... 25%
		48	25%
		49–95	25% ... 50%
		96	50%
		97–143	50% ... 75%
		144	75%
		145–190	Iris: 75% ... Closed
		191	Iris: Closed
		192	Iris Pulse Open: Stop
		193	Iris Pulse Open: Min
		194–207	Iris Pulse Open: Min ... Med
		208	Iris Pulse Open: Med
		209–222	Iris Pulse Open: Med ... Max
		223	Iris Pulse Open: Max
		224	Iris Pulse Close: Stop
		225	Iris Pulse Close: Min
		226–239	Iris Pulse Close: Min ... Med

CH	Function	DMX	Description
29	Iris (continued)	240	Iris Pulse Close: Med
		241–254	Iris Pulse Close: Med ... Max
		255	Iris Pulse Close: Max
30	Blade 1 A	0	Min
		1–127	Min ... Med
		128	Med
		129–254	Med ... Max
		255	Max
31	Blade 1 Rotation	0	CCW Max
		1–127	CCW Max ... Parallel
		128	Parallel
		129–254	Parallel ... CW Max
		255	CW Max
32	Blade 2 A	0	Min
		1–127	Min ... Med
		128	Med
		129–254	Med ... Max
		255	Max
33	Blade 2 Rotation	0	CCW Max
		1–127	CCW Max ... Parallel
		128	Parallel
		129–254	Parallel ... CW Max
		255	CW Max
34	Blade 3 A	0	Min
		1–127	Min ... Med
		128	Med
		129–254	Med ... Max
		255	Max
35	Blade 3 Rotation	0	CCW Max
		1–127	CCW Max ... Parallel
		128	Parallel
		129–254	Parallel ... CW Max
		255	CW Max
36	Blade 4 A	0	Min
		1–127	Min ... Med
		128	Med
		129–254	Med ... Max
		255	Max
37	Blade 4 Rotation	0	CCW Max
		1–127	CCW Max ... Parallel
		128	Parallel
		129–254	Parallel ... CW Max

CH	Function	DMX	Description
37	Blade 4 Rotation (continued)	255	CW Max
38	Shaper Rotation	0	CCW Max
		1–127	CCW Max ... Parallel
		128	Parallel
		129–254	Parallel ... CW Max
		255	CW Max
39	Control	0–9	Idle
		10–14	Reset Entire Fixture (5s)
		15	No Function 1
		16	Reset Color Only (5s)
		17	Reset Beam Only (5s)
		18	Reset Pan and Tilt Only (5s)
		19–22	No Function 2
		23	Linear (1s)
		24	Square Law (1s)
		25	Inverse Square Law (1s)
		26	S-Curve (1s)
		27	Pan and Tilt Speed: Standard (1s)
		28	Pan and Tilt Speed: Fast (1s)
		29	Smooth (1s)
		30	Effects Shortcuts: Enable (1s)
		31	Effects Shortcuts: Disable (1s)
		32	Focus Tracking: Disable (1s)
		33	Near (1s)
		34	Medium (1s)
		35	Far (1s)
		36	Video Tracking: Enable (1s)
		37	Video Tracking: Disable (1s)
		38	Extended Gamut (1s)
		39	Calibrated Color (1s)
		40	Direct Color (1s)
		41–51	No Function 3
		52	Control Panel Display: On (1s)
		53	Control Panel Display: Off (1s)
		54	Regulated (1s)
		55	Constant Full (1s)
		56	Constant Medium (1s)
		57	Constant Low (1s)
		58	Constant Ultra Low (1s)
		59–60	No Function 4
		61	Hibernation Mode: Enable (5s)
		62	Hibernation Mode: Disable (5s)

CH	Function	DMX	Description
39	Control (continued)	63	Follow Spot Mode: Enable (5s)
		64	Follow Spot Mode: Disable (5s)
		65	Pan and Tilt Limits: Enable (5s)
		66	Pan and Tilt Limits: Disable (5s)
		67	Store Lower Pan Limit (5s)
		68	Store Upper Pan Limit (5s)
		69	Store Lower Tilt Limit (5s)
		70	Store Upper Tilt Limit (5s)
		71	Reset (5s)
		72	Tungsten Emulation: Enable (1s)
		73	Tungsten Emulation: Disable (1s)
		74	Record Current Look (5s)
		75	Offline Run Stand-Alone Show (5s)
		76	Offline Hold Last Look (5s)
		77–78	No Function 5
		79	Gobo CT Correction: Enable (1s)
		80	Gobo CT Correction: Disable (1s)
		81–83	No Function 6
		84	Studio Mode 2 (1s)
		85	Studio Mode 1 (1s)
		86	Studio Mode: Disable (1s)
		87	Keylight Calibration: Disable (1s)
		88	Manual (1s)
		89	Automatic (1s)
		90–93	No Function 7
		94	Framing Mode: Standard (1s)
		95	Legacy (1s)
		96–99	No Function 8
		100	Enable Calibration (5s)
		101	Store Pan and Tilt Calibration (5s)
		102	Store Pan and Tilt Calibration (5s) ... Store Cyan Calibration (5s)
		103	Store Cyan Calibration (5s)
		104	Store Magenta Calibration (5s)
		105	Store Yellow Calibration (5s)
		106	Store CTO Calibration (5s)
		107	Store All CMYC Calibration (5s)
		108	Store Gobo 1 Calibration (5s)
		109	Store Gobo 2 Calibration (5s)
		110	Store Gobo 2 Calibration (5s) ... Store Framing Calibration (5s)
		111	Store Framing Calibration (5s)
		112	Store Iris Calibration (5s)

CH	Function	DMX	Description
39	Control (continued)	113	Store Focus Calibration (5s)
		114	Store Zoom Calibration (5s)
		115	Store ColorWheel Calibration (5s)
		116–191	Store ColorWheel Calibration (5s) ... Start CTB Keylight Calibration (5s)
		192	Start CTB Keylight Calibration (5s)
		193	Store CTB Keylight Calibration (5s)
		194	Start CTO Keylight Calibration (5s)
		195	Start Spectral Enhancement Keylight Calibration (5s)
		196	Store CTO Keylight Calibration (5s)
		197	Store Spectral Enhancement Keylight Calibration (5s)
		198	Store All Calibration (5s)
		199	Reset All Calibration To Factory Default (5s)
		200–209	No Function 9
		210	Outdoor Actions: Stop (1s)
		211	Stop (1s) ... Dry Off (1s)
		212	Dry Off (1s)
		213	Safe Parking (1s)
		214–255	No Function 10

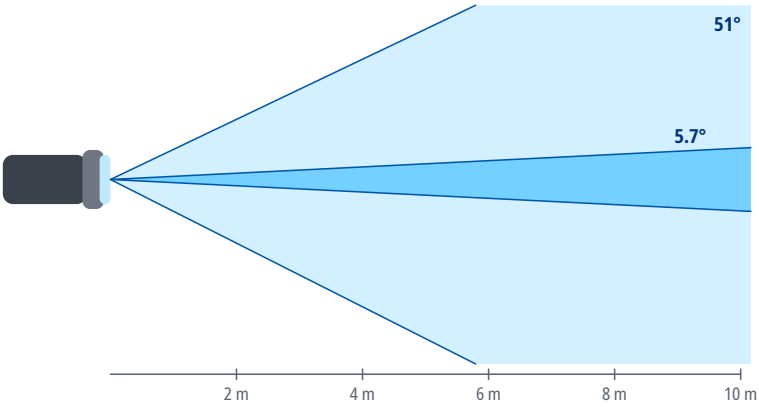
10 Technical specifications

Parameter	Value
Light	
Light source	LED
Optics	
Zoom	5.7–51°
Movement	
Pan	540°
Tilt	268°
Control	
DMX connection	5-pin XLR IN/OUT
RJ45 connectors	etherCON IN/OUT
RDM	yes (manufacturer ID 0x4D50, device model ID 0x00B6)
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	945 W
Power connectors	powerCONTRUE1TOP IN
Dimensions and construction	
Weight	37 kg
Operating environment	
Operating temperature	-10 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	2850–5800 K
Strobe frequency	1–20 Hz
Color wheel rotation	up to 360 °/s (60 rpm)
Gobo 2 rotation	up to 900 °/s (150 rpm)
Prism rotation	up to 975 °/s (162 rpm)

Spot diameter



Distance	Ø 5.7°	Ø 51°
2 m	0.2 m	1.9 m
4 m	0.4 m	3.8 m
6 m	0.6 m	5.7 m
8 m	0.8 m	7.6 m
10 m	1 m	9.5 m
15 m	1.5 m	14.3 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.