DMX REFERENCE

IM-MH90s

MAC Quantum Profile

NightStage_75



Manufacturer	NightStage_75
GDTF file	NightStage_75_IM-MH90s_100679.gdtf
GDTF revision	1111 · 2025-06-19
Generated	2026-11-24

Contents

1 About this manual 2
2 Quick reference 3
3 Safety instructions 4
4 Product description 5
5 Installation 6
6 Connections 6
7 Operation 7
8 Functions at a glance 8
9 DMX channels 10
Mode Basic 11
Mode Extended 18
10 Technical specifications 28
11 Maintenance and cleaning 29
12 Troubleshooting 29
13 Disposal 30

1 About this manual

This document describes the MAC Quantum Profile by NightStage_75. It was compiled from the GDTF file NightStage_75_IM-MH90s_100679.gdtf from the GDTF-Share library.

File revision: “1111”.

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 NightStage_75; 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	575 W
Weight	23.2 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Basic	19	26	1, 20, 39, 58, ...
Extended	27	18	1, 28, 55, 82, ...

No light? Check these channels

- Basic: CH 1 Shutter at 20–49 or 201–210 “Open”; CH 2 Dimmer above 0
- Extended: CH 1 Shutter at 20–49 or 201–210 “Open”; CH 2 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: 120–240 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

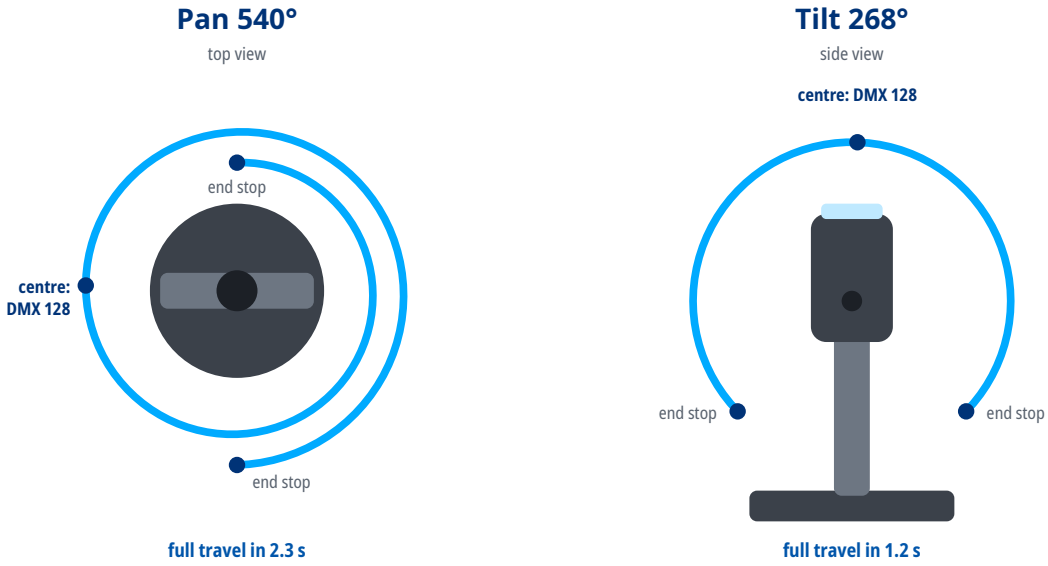
- The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
- Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts,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

“Official Martin Professional File (no measurements)”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

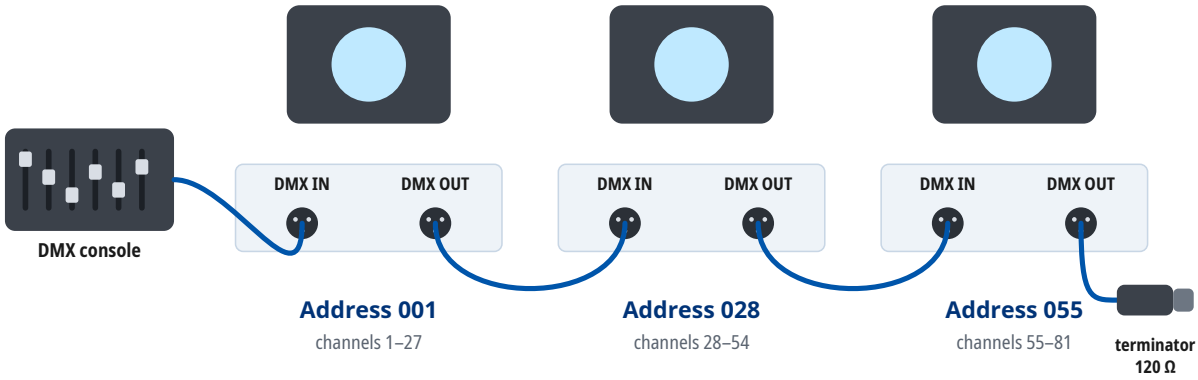
⚠ **WARNING**

- 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: 23.2 kg.
- Use suitable mounting hardware (for example truss clamps) and tighten all screw connections properly.
- Always secure the suspended device against falling with a safety cable of adequate load capacity, routed through a fixed point of the device and around the supporting structure.
- During installation and removal, keep people out of the area below the work position.
- Regularly inspect the fixings and the safety cable for damage, corrosion and loosening.

6 Connections

- Use shielded cable designed for DMX512 with an impedance of 110 Ω. Ordinary microphone cable is not suitable for DMX, especially over longer distances.
- Connect the devices in a daisy chain: connect the DMX OUT of one device to the DMX IN of the next. Do not split the line with Y-cables or wire it in a star; the line may be split only with a DMX splitter.
- Connect the shield to pin 1 only. Do not connect the shield (ground) to the metal shell of the connector; this can cause short circuits or erratic behavior.
- XLR pin assignment: pin 1 – shield (ground), pin 2 – Data- (Data Complement), pin 3 – Data+ (Data True). On 5-pin connectors, pins 4 and 5 are not connected; a 5-pin connector can be connected to a 3-pin one with a cable adapter.
- Terminate the end of the line (for impedance matching): plug an XLR connector with a 120 Ω, ¼ W resistor between pins 2 and 3 into the DMX OUT of the last device. This reduces the risk of erratic behavior.
- Connect no more than 32 devices to one DMX line. For more devices or longer runs, use a DMX splitter or booster.

DMX line



Mode Extended: every unit occupies 27 channels from its address. At most 32 units on one line; for more units or longer runs use a DMX splitter. A 120 Ω terminator closes the last DMX OUT.

7 Operation

Setting the DMX address

- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Extended”: 27.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “Extended”, you can use, for example, the start addresses 1, 28, 55, 82.
- 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.

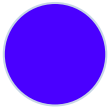
8 Functions at a glance

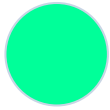
Functions in each DMX mode

	Basic 19 channels	Extended 27 channels
Pan / Tilt	15, 17	18, 20
Dimmer	2	2
Dimmer resolution	8 bit	16 bit
Shutter / strobe	1	1
Color mixing	3–5	4–6
Color wheel	6	7
Gobo wheel	7, 10	8, 11
Gobo rotation	8	9
Prism	11	12
Zoom	13	14
Focus	14	16
Iris	12	13
Effects / macros		23–27

Color wheel

1
Color Wheel Index: Open
DMX 0–7

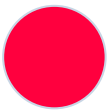
2 
Color Wheel Index: Blue
DMX 8–22

3 
Color Wheel Index: Green
DMX 23–37

4
Color Wheel Index: CTO
DMX 38–52

5 
Color Wheel Index: Deep Magenta
DMX 53–67

6 
Color Wheel Index: Congo Blue
DMX 68–82

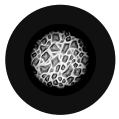
7 
Color Wheel Index: Red
DMX 83–97

Gobo wheel 1

1
Gobo 1 Indexing: Open
DMX 0–4

2 
Gobo 1 Indexing: Gobo 1
DMX 5–9

3 
Gobo 1 Indexing: Gobo 2
DMX 10–14

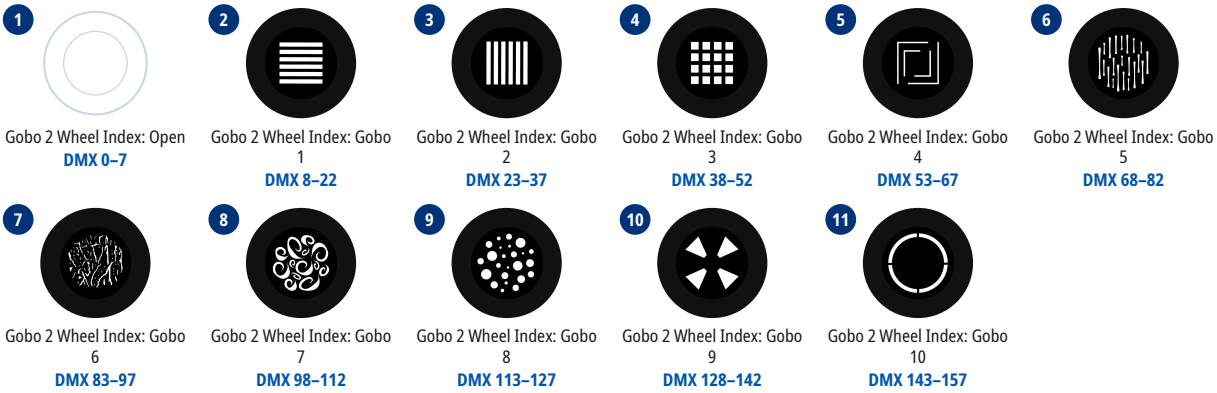
4 
Gobo 1 Indexing: Gobo 3
DMX 15–19

5 
Gobo 1 Indexing: Gobo 4
DMX 20–24

6 
Gobo 1 Indexing: Gobo 5
DMX 25–29

7 
Gobo 6
DMX 30–35

Gobo wheel 2



1 Gobo 2 Wheel Index: Open
DMX 0–7

2 Gobo 2 Wheel Index: Gobo 1
DMX 8–22

3 Gobo 2 Wheel Index: Gobo 2
DMX 23–37

4 Gobo 2 Wheel Index: Gobo 3
DMX 38–52

5 Gobo 2 Wheel Index: Gobo 4
DMX 53–67

6 Gobo 2 Wheel Index: Gobo 5
DMX 68–82

7 Gobo 2 Wheel Index: Gobo 6
DMX 83–97

8 Gobo 2 Wheel Index: Gobo 7
DMX 98–112

9 Gobo 2 Wheel Index: Gobo 8
DMX 113–127

10 Gobo 2 Wheel Index: Gobo 9
DMX 128–142

11 Gobo 2 Wheel Index: Gobo 10
DMX 143–157

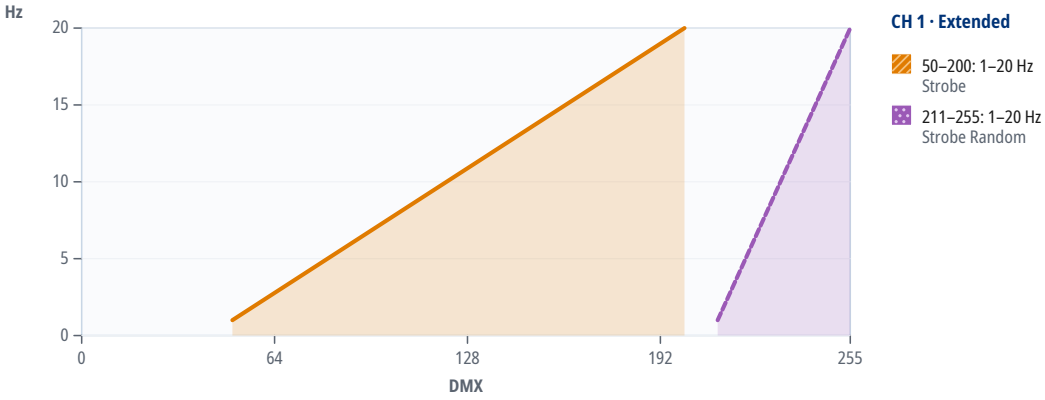
Prism



1 Open
DMX 0–3

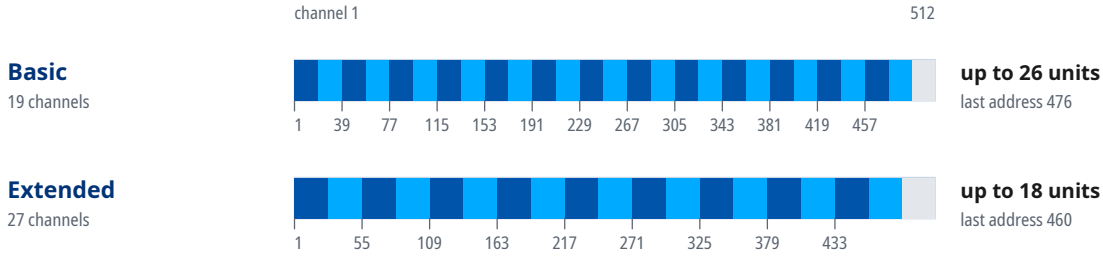
2 3 facets
CW Max
DMX 3

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Extended”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	136	11	271	16	406
2	28	7	163	12	298	17	433
3	55	8	190	13	325	18	460
4	82	9	217	14	352	19	U2 · 1
5	109	10	244	15	379	20	U2 · 28

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

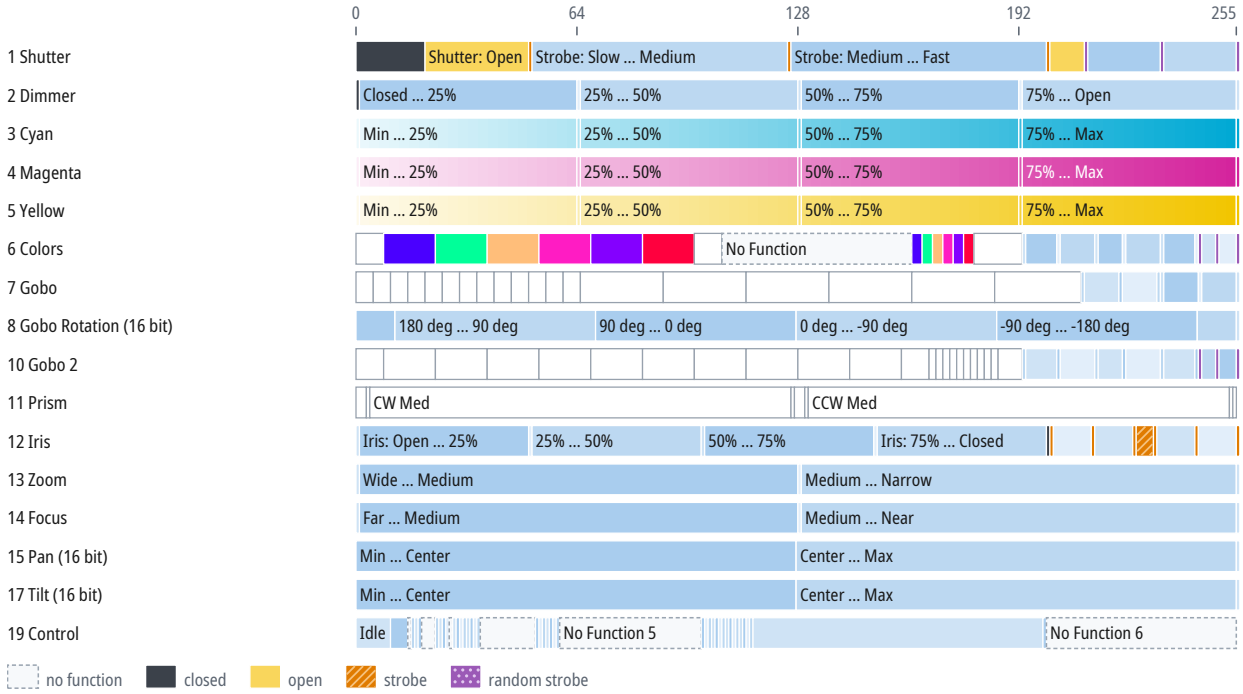
Mode	Channels	RDM personality
Basic	19	1
Extended	27	2

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 1 Shutter at 20–49 or 201–210 “Open”; CH 2 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Shutter 30, CH 2 Dimmer 255, CH 3 Cyan 0, CH 4 Magenta 0, CH 5 Yellow 0, CH 6 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Shutter	0–19	Shutter: Closed
		20–49	Shutter: Open
		50	Strobe: Slow
		51–124	Strobe: Slow ... Medium
		125	Strobe: Medium
		126–199	Strobe: Medium ... Fast
		200	Strobe: Fast
		201–210	Shutter: Open
		211	Strobe Random: Slow
		212–232	Strobe Random: Slow ... Medium
		233	Strobe Random: Medium
		234–254	Strobe Random: Medium ... Fast
		255	Strobe Random: Fast
2	Dimmer	0	Closed
		1–63	Closed ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%

CH	Function	DMX	Description
2	Dimmer (continued)	129–191	50% … 75%
		192	75%
		193–254	75% … Open
		255	Open
3	Cyan	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
4	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
5	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
6	Colors	0–7	Color Wheel Index: Open
		8–22	Color Wheel Index: Blue
		23–37	Color Wheel Index: Green
		38–52	Color Wheel Index: CTO
		53–67	Color Wheel Index: Deep Magenta
		68–82	Color Wheel Index: Congo Blue
		83–97	Color Wheel Index: Red
		98–105	Color Wheel Index: Open
		106–160	No Function
		161–163	Color Selection: Blue
		164–166	Color Selection: Green

CH	Function	DMX	Description
6	Colors (continued)	167–169	Color Selection: CTO
		170–172	Color Selection: Deep Magenta
		173–175	Color Selection: Congo Blue
		176–178	Color Selection: Red
		179–192	Color Selection: Open
		193	CW Max
		194–202	CW Max … CW Med
		203	CW Med
		204–213	CW Med … CW Min
		214	CW Min
		215–221	Color Wheel Spin: Stop
		222	CCW Min
		223–232	CCW Min … CCW Med
		233	CCW Med
		234–242	CCW Med … CCW Max
		243	CCW Max
		244	Color Wheel Random: Fast
		245–248	Fast … Medium
		249	Medium
		250–254	Medium … Slow
		255	Color Wheel Random: Slow
7	Gobo	0–4	Gobo 1 Indexing: Open
		5–9	Gobo 1 Indexing: Gobo 1
		10–14	Gobo 1 Indexing: Gobo 2
		15–19	Gobo 1 Indexing: Gobo 3
		20–24	Gobo 1 Indexing: Gobo 4
		25–29	Gobo 1 Indexing: Gobo 5
		30–34	Gobo 1 Indexing: Gobo 6
		35–39	Gobo 1 Rotation: Gobo 1
		40–44	Gobo 1 Rotation: Gobo 2
		45–49	Gobo 1 Rotation: Gobo 3
		50–54	Gobo 1 Rotation: Gobo 4
		55–59	Gobo 1 Rotation: Gobo 5
		60–64	Gobo 1 Rotation: Gobo 6
		65–88	Gobo 1 Shake: Gobo 1 (0.14–2.5 Hz)
		89–112	Gobo 1 Shake: Gobo 2 (0.14–2.5 Hz)
		113–136	Gobo 1 Shake: Gobo 3 (0.14–2.5 Hz)
		137–160	Gobo 1 Shake: Gobo 4 (0.14–2.5 Hz)
		161–184	Gobo 1 Shake: Gobo 5 (0.14–2.5 Hz)
		185–209	Gobo 1 Shake: Gobo 6 (0.14–2.5 Hz)
		210	CW Max
		211–220	CW Max … CW Med

CH	Function	DMX	Description
7	Gobo (continued)	221	CW Med
		222–231	CW Med ... CW Min
		232	CW Min
		233	CCW Min
		234–243	CCW Min ... CCW Med
		244	CCW Med
		245–254	CCW Med ... CCW Max
		255	CCW Max
8	Gobo Rotation		When CH 7 is 0–34:
		0–11	197 deg ... 180 deg
		11–69	180 deg ... 90 deg
		69–127	90 deg ... 0 deg
		128–186	0 deg ... -90 deg
		186–244	-90 deg ... -180 deg
		244–255	-180 deg ... -197 deg
		255	-197 deg
			When CH 7 is 35–64:
		0–2	Gobo 1 Rotation Stop: Stop 0
		2–63	CW Max ... CW Med
		63–125	CW Med ... CW Min
		125	CW Min
		125–128	Gobo 1 Rotation: Stop
		128–190	CCW Min ... CCW Med
		190–252	CCW Med ... CCW Max
		252	CCW Max
		252–255	Gobo 1 Rotation Stop: Stop 90
			When CH 7 is 65–209:
		0–11	197 deg ... 180 deg
		11–69	180 deg ... 90 deg
		69–127	90 deg ... 0 deg
		128–186	0 deg ... -90 deg
		186–244	-90 deg ... -180 deg
		244–255	-180 deg ... -197 deg
		255	-197 deg
			When CH 7 is 210–255:
		0–11	197 deg ... 180 deg
		11–69	180 deg ... 90 deg
		69–127	90 deg ... 0 deg
		128–186	0 deg ... -90 deg
		186–244	-90 deg ... -180 deg
		244–255	-180 deg ... -197 deg
		255	-197 deg

CH	Function	DMX	Description
9	Gobo Rotation Fine	0–255	Fine adjustment of CH 8
10	Gobo 2	0–7	Gobo 2 Wheel Index: Open
		8–22	Gobo 2 Wheel Index: Gobo 1
		23–37	Gobo 2 Wheel Index: Gobo 2
		38–52	Gobo 2 Wheel Index: Gobo 3
		53–67	Gobo 2 Wheel Index: Gobo 4
		68–82	Gobo 2 Wheel Index: Gobo 5
		83–97	Gobo 2 Wheel Index: Gobo 6
		98–112	Gobo 2 Wheel Index: Gobo 7
		113–127	Gobo 2 Wheel Index: Gobo 8
		128–142	Gobo 2 Wheel Index: Gobo 9
		143–157	Gobo 2 Wheel Index: Gobo 10
		158–165	Gobo 2 Wheel Index: Open
		166–167	Gobo 2 Selection: Gobo 1
		168–169	Gobo 2 Selection: Gobo 2
		170–171	Gobo 2 Selection: Gobo 3
		172–173	Gobo 2 Selection: Gobo 4
		174–175	Gobo 2 Selection: Gobo 5
		176–177	Gobo 2 Selection: Gobo 6
		178–179	Gobo 2 Selection: Gobo 7
		180–181	Gobo 2 Selection: Gobo 8
		182–183	Gobo 2 Selection: Gobo 9
		184–185	Gobo 2 Selection: Gobo 10
		186–192	Gobo 2 Selection: Open
		193	CW Max
		194–202	CW Max … CW Med
		203	CW Med
		204–213	CW Med … CW Min
		214	CW Min
		215–221	Gobo 2 Wheel Rotation: Stop
		222	CCW Min
		223–232	CCW Min … CCW Med
		233	CCW Med
		234–242	CCW Med … CCW Max
		243	CCW Max
		244	Gobo 2 Random: Fast
		245–248	Fast … Medium
		249	Medium
		250–254	Medium … Slow
		255	Gobo 2 Random: Slow
11	Prism	0–2	Open
		3	CW Max

CH	Function	DMX	Description
11	Prism (continued)	4–125	CW Med (892.8–21.6 °/s)
		126	CW Min
		127–129	Prism Rotation: Stop (up to 7.2 °/s (1.2 rpm))
		130	CCW Min
		131–252	CCW Med (21.6–892.8 °/s)
		253	CCW Max
		254–255	Open
12	Iris	0	Iris: Open
		1–49	Iris: Open ... 25%
		50	25%
		51–99	25% ... 50%
		100	50%
		101–149	50% ... 75%
		150	75%
		151–199	Iris: 75% ... Closed
		200	Iris: Closed
		201	Iris Pulse Open: Fast
		202–212	Fast ... Medium
		213	Iris Pulse Open: Medium
		214–224	Medium ... Slow
		225	Iris Pulse Open: Slow
		226–230	Pulse Stop
		231	Iris Pulse Close: Slow
		232–242	Slow ... Medium
		243	Iris Pulse Close: Medium
		244–254	Medium ... Fast
		255	Iris Pulse Close: Fast
13	Zoom	0	Wide
		1–127	Wide ... Medium
		128	Medium
		129–254	Medium ... Narrow
		255	Narrow
14	Focus	0	Far
		1–127	Far ... Medium
		128	Medium
		129–254	Medium ... Near
		255	Near
15	Pan	0–127	Min ... Center
		128–255	Center ... Max
		255	Max
16	Pan Fine	0–255	Fine adjustment of CH 15
17	Tilt	0–127	Min ... Center

CH	Function	DMX	Description
17	Tilt (continued)	128–255	Center … Max
		255	Max
18	Tilt Fine	0–255	Fine adjustment of CH 17
19	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 (1s)
		25	Inverse Square (1s)
		26	S-Curve (1s)
		27	No Function 3
		28	Pan and Tilt Speed: Fast (1s)
		29	Smooth (1s)
		30	Shortcuts ON
		31	Shortcuts OFF
		32	Focus Tracking: Off (1s)
		33	Near Distance (1s)
		34	Medium Distance (1s)
		35	Far Distance (1s)
		36–51	No Function 4
		52	Control Panel Display ON (1s)
		53	Control Panel Display OFF (1s)
		54	Regulated Fan Speed (1s)
		55	Full Fan Speed (1s)
		56	Medium Fan Speed (1s)
		57	Low Fan Speed (1s)
		58	Ultra Low Fan Speed (1s)
		59–99	No Function 5
		100	Enable Calibration (5s)
		101	Store Pan and Tilt Calibration (5s)
		102	Store Dimmer Calibration (5s)
		103	Store Cyan Calibration (5s)
		104	Store Magenta Calibration (5s)
		105	Store Yellow Calibration (5s)
		106	Store Yellow Calibration (5s) … Store All CMY Calibration (5s)
		107	Store All CMY Calibration (5s)
		108	Store Roto Gobo Calibration (5s)

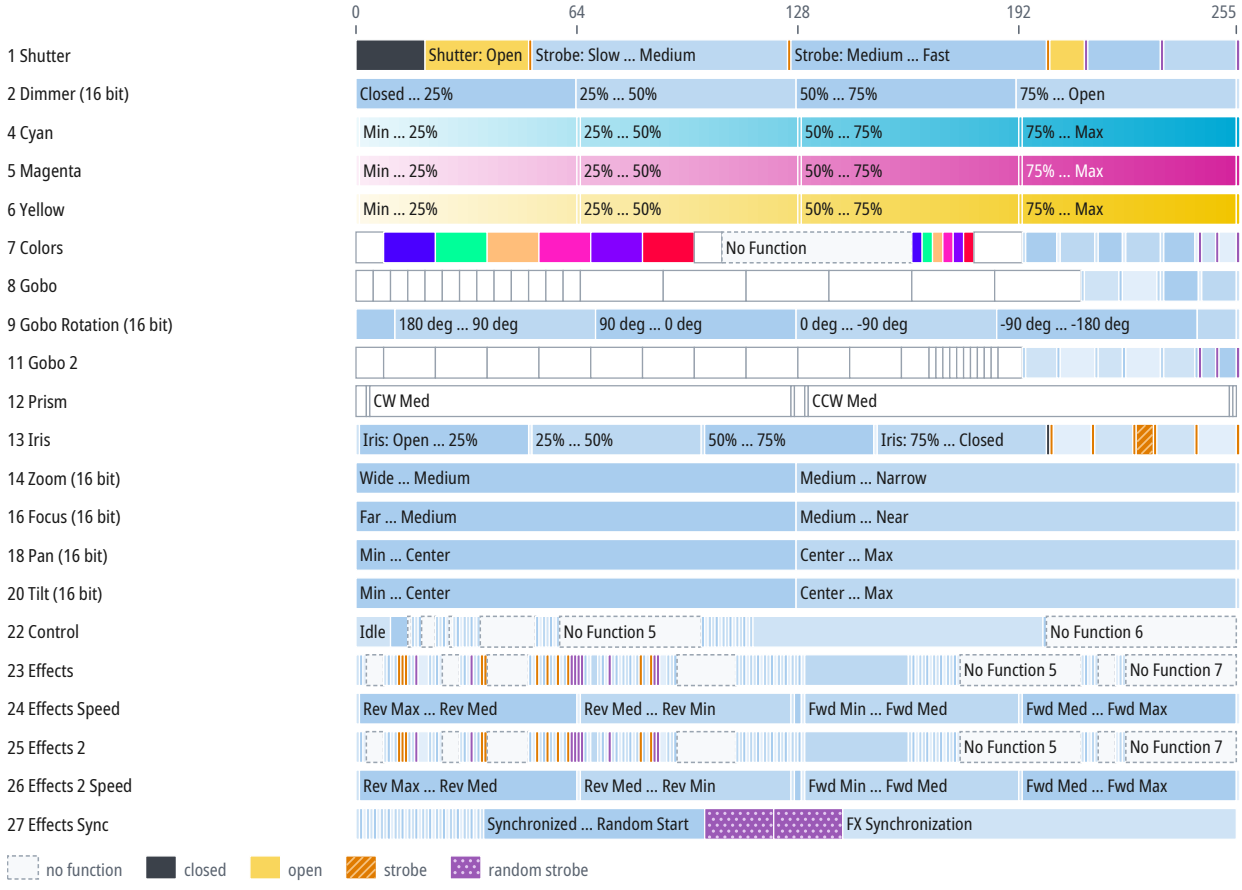
CH	Function	DMX	Description
19	Control (continued)	109	Store Roto Gobo Calibration (5s) ... Store Stat Gobo Calibration (5s)
		110	Store Stat Gobo Calibration (5s)
		111	Store Stat Gobo Calibration (5s) ... Store Iris Calibration (5s)
		112	Store Iris Calibration (5s)
		113	Store Focus Calibration (5s)
		114	Store Zoom Calibration (5s)
		115–198	Store Zoom Calibration (5s) ... Reset All Calibration To Factory Default (5s)
		199	Reset All Calibration To Factory Default (5s)
		200–255	No Function 6

Mode Extended

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Shutter at 20–49 or 201–210 “Open”; CH 2 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Shutter 30, CH 2 Dimmer 255, CH 4 Cyan 0, CH 5 Magenta 0, CH 6 Yellow 0, CH 7 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Shutter		Same as CH 1 in the mode “Basic” (p. 11)
2	Dimmer	0–63	Closed ... 25%
		64–127	25% ... 50%
		128–191	50% ... 75%
		192–255	75% ... Open
		255	Open
3	Dimmer Fine	0–255	Fine adjustment of CH 2
4	Cyan		Same as CH 3 in the mode “Basic” (p. 12)
5	Magenta		Same as CH 4 in the mode “Basic” (p. 12)
6	Yellow		Same as CH 5 in the mode “Basic” (p. 12)
7	Colors		Same as CH 6 in the mode “Basic” (p. 12)
8	Gobo		Same as CH 7 in the mode “Basic” (p. 13)
9	Gobo Rotation		When CH 8 is 0–34:
		0–11	197 deg ... 180 deg
		11–69	180 deg ... 90 deg
		69–127	90 deg ... 0 deg
		128–186	0 deg ... -90 deg
		186–244	-90 deg ... -180 deg
		244–255	-180 deg ... -197 deg
		255	-197 deg
			When CH 8 is 35–64:
		0–2	Gobo 1 Rotation Stop: Stop 0
		2–63	CW Max ... CW Med
		63–125	CW Med ... CW Min
		125	CW Min
		125–128	Gobo 1 Rotation: Stop
		128–190	CCW Min ... CCW Med
		190–252	CCW Med ... CCW Max
		252	CCW Max
		252–255	Gobo 1 Rotation Stop: Stop 90
			When CH 8 is 65–209:
		0–11	197 deg ... 180 deg
		11–69	180 deg ... 90 deg
		69–127	90 deg ... 0 deg
		128–186	0 deg ... -90 deg
		186–244	-90 deg ... -180 deg
		244–255	-180 deg ... -197 deg
		255	-197 deg
			When CH 8 is 210–255:
		0–11	197 deg ... 180 deg

CH	Function	DMX	Description
9	Gobo Rotation (continued)	11–69	180 deg ... 90 deg
		69–127	90 deg ... 0 deg
		128–186	0 deg ... -90 deg
		186–244	-90 deg ... -180 deg
		244–255	-180 deg ... -197 deg
		255	-197 deg
10	Gobo Rotation Fine	0–255	Fine adjustment of CH 9
11	Gobo 2		Same as CH 10 in the mode “Basic” (p. 15)
12	Prism		Same as CH 11 in the mode “Basic” (p. 15)
13	Iris		Same as CH 12 in the mode “Basic” (p. 16)
14	Zoom	0–127	Wide ... Medium
		128–255	Medium ... Narrow
		255	Narrow
15	Zoom Fine	0–255	Fine adjustment of CH 14
16	Focus	0–127	Far ... Medium
		128–255	Medium ... Near
		255	Near
17	Focus Fine	0–255	Fine adjustment of CH 16
18	Pan		Same as CH 15 in the mode “Basic” (p. 16)
19	Pan Fine	0–255	Fine adjustment of CH 18
20	Tilt		Same as CH 17 in the mode “Basic” (p. 16)
21	Tilt Fine	0–255	Fine adjustment of CH 20
22	Control		Same as CH 19 in the mode “Basic” (p. 17)
23	Effects	0	No Effect
		1	Gobo X-Fade
		2	Bad Stepper
		3–7	No Function 1
		8	Tick Tick Tick
		9	Tick Tock
		10	Wave
		11	Step
		12	Pulse
		13	2x Strobe
		14	3x Strobe
		15	Up Down Flash
		16	Up Flash Down Flash
		17	Random Levels
		18–20	Random Levels ... Electric Arc
		21	Electric Arc
		22	Atomic Lighting
		23	Thunderstorm

CH	Function	DMX	Description
23	Effects (continued)	24	Welding
		25–29	No Function 2
		30	Stop Motion
		31	Movie Flicker
		32	Cross Chase
		33	Random Dimmers
		34	Shakey Dimmers
		35	Center Out Chase
		36	Negative Pulse
		37	Positive Pulse
		38–49	No Function 3
		50	Rainbow Wave
		51	Rainbow Step
		52	Rainbow Pulse
		53	RGB Wave
		54	RGB Step
		55	RGB Pulse
		56	CMY Wave
		57	CMY Step
		58	CMY Pulse
		59	Mix to White Wave
		60	Mix to White Step
		61	Mix to White Pulse
		62	Random Mix Wave
		63	Random Mix Step
		64	Random Mix Pulse
		65	Random Subtle Wave
		66	RedWhiteBlue Wave
		67	RedWhiteBlue Step
		68–69	RedWhiteBlue Step ... Color Wheel Full Step
		70	Color Wheel Full Step
		71	Color Wheel All Step
		72	Color Wheel Split Step
		73	Color Wheel Random Split Step
		74	Color Wheel Shaker
		75	Color FX: Fire
		76	Color FX: Water
		77	Ice
		78	Hot and Cold
		79	Warm and Fuzzy
		80	Iris Wave

CH	Function	DMX	Description
23	Effects (continued)	81	Iris Step
		82	Iris Pulse
		83	Zoom Wave
		84	Zoom Step
		85	Zoom Pulse
		86	Random Size Wave
		87	Random Size Step
		88–89	Random Size Step ... Pin To Flood
		90	Pin To Flood
		91	Pounce
		92	Splash
		93–109	No Function 4
		110	Three Beams
		111	Small Spidey
		112	Circle Cuts
		113	Mill Cuts
		114	Dots in Motion
		115	Lots of Dots
		116	Moonflower
		117	Starlight
		118	Windows
		119	Three Ring Circus
		120	Flying Bananas
		121	Beamage
		122	Spider Twist
		123	Milling Around
		124	Flicker Dots
		125	Tick Tock Cone
		126	Flap Flap
		127	Nervous Dots
		128	Chasing Dots
		129	Counter Flaps
		130–159	Counter Flaps ... Fire
		160	Gobo FX: Fire
		161	Fire ... Water
		162	Gobo FX: Water
		163	Water ... Vertical Scratches
		164	Vertical Scratches
		165	Horizontal Scratches
		166	Box Animation
		167	Chasing Worms

CH	Function	DMX	Description
23	Effects (continued)	168	Spidermotion
		169	Curvy Field
		170	Big Balls
		171	Veins
		172	Yellow Veins
		173	Wavy Bones
		174	Blubber
		175–209	No Function 5
		210	Zoom Fade
		211	Fade Spin Zoom
		212	Gobo Twist
		213	Expand Twist
		214	Expand Twist Out
		215–219	No Function 6
		220	Circle Square
		221	Circle Open
		222	Line By Line
		223–255	No Function 7
24	Effects Speed		FX 1 Speed
		0	Rev Max
		1–63	Rev Max ... Rev Med
		64	Rev Med
		65–125	Rev Med ... Rev Min
		126	Rev Min
		127–128	Stop
		129	Fwd Min
		130–191	Fwd Min ... Fwd Med
		192	Fwd Med
		193–254	Fwd Med ... Fwd Max
		255	Fwd Max
25	Effects 2	0	No Effect
		1	Gobo X-Fade
		2	Bad Stepper
		3–7	No Function 1
		8	Tick Tick Tick
		9	Tick Tock
		10	Wave
		11	Step
		12	Pulse
		13	2x Strobe
		14	3x Strobe
		15	Up Down Flash

CH	Function	DMX	Description
25	Effects 2 (continued)	16	Up Flash Down Flash
		17	Random Levels
		18–20	Random Levels … Electric Arc
		21	Electric Arc
		22	Atomic Lighting
		23	Thunderstorm
		24	Welding
		25–29	No Function 2
		30	Stop Motion
		31	Movie Flicker
		32	Cross Chase
		33	Random Dimmers
		34	Shakey Dimmers
		35	Center Out Chase
		36	Negative Pulse
		37	Positive Pulse
		38–49	No Function 3
		50	Rainbow Wave
		51	Rainbow Step
		52	Rainbow Pulse
		53	RGB Wave
		54	RGB Step
		55	RGB Pulse
		56	CMY Wave
		57	CMY Step
		58	CMY Pulse
		59	Mix to White Wave
		60	Mix to White Step
		61	Mix to White Pulse
		62	Random Mix Wave
		63	Random Mix Step
		64	Random Mix Pulse
		65	Random Subtle Wave
		66	RedWhiteBlue Wave
		67	RedWhiteBlue Step
		68–69	RedWhiteBlue Step … Color Wheel Full Step
		70	Color Wheel Full Step
		71	Color Wheel All Step
		72	Color Wheel Split Step
		73	Color Wheel Random Split Step
		74	Color Wheel Shaker
		75	Color FX: Fire

CH	Function	DMX	Description
25	Effects 2 (continued)	76	Color FX: Water
		77	Ice
		78	Hot and Cold
		79	Warm and Fuzzy
		80	Iris Wave
		81	Iris Step
		82	Iris Pulse
		83	Zoom Wave
		84	Zoom Step
		85	Zoom Pulse
		86	Random Size Wave
		87	Random Size Step
		88–89	Random Size Step ... Pin To Flood
		90	Pin To Flood
		91	Pounce
		92	Splash
		93–109	No Function 4
		110	Three Beams
		111	Small Spidey
		112	Circle Cuts
		113	Mill Cuts
		114	Dots in Motion
		115	Lots of Dots
		116	Moonflower
		117	Starlight
		118	Windows
		119	Three Ring Circus
		120	Flying Bananas
		121	Beamage
		122	Spider Twist
		123	Milling Around
		124	Flicker Dots
		125	Tick Tock Cone
		126	Flap Flap
		127	Nervous Dots
		128	Chasing Dots
		129	Counter Flaps
		130–159	Counter Flaps ... Fire
		160	Gobo FX: Fire
		161	Fire ... Water
		162	Gobo FX: Water
		163	Water ... Vertical Scratches

CH	Function	DMX	Description
25	Effects 2 (continued)	164	Vertical Scratches
		165	Horizontal Scratches
		166	Box Animation
		167	Chasing Worms
		168	Spidermotion
		169	Curvy Field
		170	Big Balls
		171	Veins
		172	Yellow Veins
		173	Wavy Bones
		174	Blubber
		175–209	No Function 5
		210	Zoom Fade
		211	Fade Spin Zoom
		212	Gobo Twist
		213	Expand Twist
		214	Expand Twist Out
		215–219	No Function 6
		220	Circle Square
		221	Circle Open
		222	Line By Line
		223–255	No Function 7
26	Effects 2 Speed		FX 2 Speed
		0	Rev Max
		1–63	Rev Max ... Rev Med
		64	Rev Med
		65–125	Rev Med ... Rev Min
		126	Rev Min
		127–128	Stop
		129	Fwd Min
		130–191	Fwd Min ... Fwd Med
		192	Fwd Med
		193–254	Fwd Med ... Fwd Max
		255	Fwd Max
27	Effects Sync		FX Synchronization
		0	No Sync
		1	Fixture Offset 10deg
		2	Fixture Offset 20deg
		3	Fixture Offset 30deg
		4	Fixture Offset 40deg
		5	Fixture Offset 50deg
		6	Fixture Offset 60deg

CH	Function	DMX	Description
27	Effects Sync (continued)	7	Fixture Offset 70deg
		8	Fixture Offset 80deg
		9	Fixture Offset 90deg
		10	Fixture Offset 100deg
		11	Fixture Offset 110deg
		12	Fixture Offset 120deg
		13	Fixture Offset 130deg
		14	Fixture Offset 140deg
		15	Fixture Offset 150deg
		16	Fixture Offset 160deg
		17	Fixture Offset 170deg
		18	Fixture Offset 180deg
		19	Fixture Offset 190deg
		20	Fixture Offset 200deg
		21	Fixture Offset 210deg
		22	Fixture Offset 220deg
		23	Fixture Offset 230deg
		24	Fixtrue Offset 240deg
		25	Fixture Offset 250deg
		26	Fixture Offset 260deg
		27	Fixture Offset 270deg
		28	Fixture Offset 280deg
		29	Fixture Offset 290deg
		30	Fixture Offset 300deg
		31	Fixture Offset 310deg
		32	Fixture Offset 320deg
		33	Fixture Offset 330deg
		34	Fixture Offset 340deg
		35	Fixture Offset 350deg
		36	Synchronized
		37–100	Synchronized ... Random Start
		101–120	Random Start
		121–140	Random Duration
		141–255	FX Synchronization

10 Technical specifications

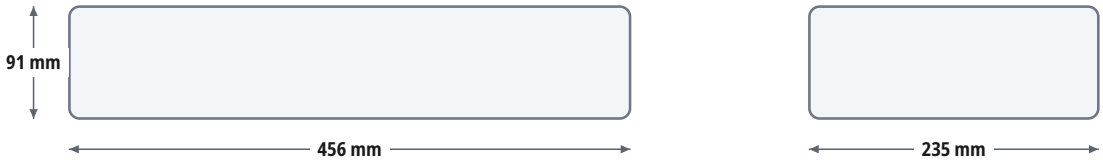
Parameter	Value
Light	
Light source	LED
LED power	475 W
Luminous flux	12,800 lm
Color temperature	6,000 K
Color rendering index (CRI)	70
Optics	
Zoom	12–36°
Movement	
Pan	540°
Tilt	268°
Control	
DMX connection	5-pin XLR IN/OUT
RDM	yes (manufacturer ID 0x4D50, device model ID 0x0052)
Electrical	
Power supply	120–240 V, 50/60 Hz
Power consumption	575 W
Power connectors	NAC3FCA IN
Dimensions and construction	
Weight	23.2 kg
Operating environment	
Operating temperature	5 to 40 °C

Speeds and ranges

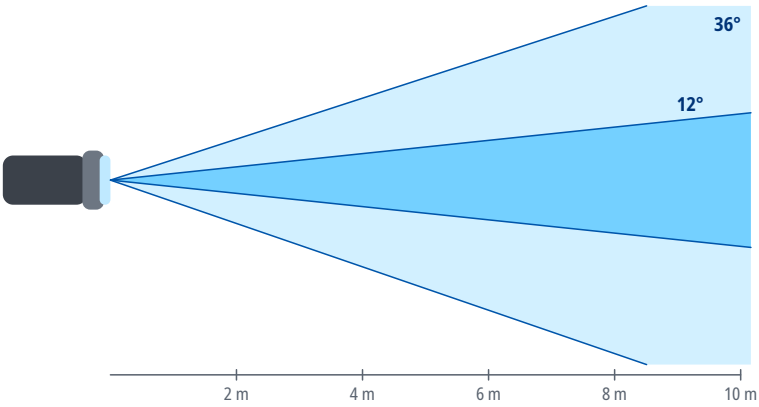
Parameter	Value
Strobe frequency	1–20 Hz
Color wheel rotation	up to 360 °/s (60 rpm)
Gobo wheel 1 rotation	up to 1150 °/s (192 rpm)
Gobo wheel 2 rotation	up to 360 °/s (60 rpm)
Gobo 1 rotation	up to 780 °/s (130 rpm)
Prism rotation	up to 900 °/s (150 rpm)

Dimensions

weight 23.2 kg



Spot diameter



Distance	Ø 12°	Ø 36°
2 m	0.42 m	1.3 m
4 m	0.84 m	2.6 m
6 m	1.3 m	3.9 m
8 m	1.7 m	5.2 m
10 m	2.1 m	6.5 m
15 m	3.2 m	9.7 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.

Problem	Remedy
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.