DMX REFERENCE

HNP 380 BSW

HERTZNPIXELS

Manufacturer	HERTZNPIXELS
GDTF file	HERTZNPIXELS_HNP_380_BSW_109610.gdtf
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1 About this manual

This document describes the HNP 380 BSW by HERTZNPIXELS. It was compiled from the GDTF file HERTZNPIXELS_HNP_380_BSW_109610.gdtf from the GDTF-Share library.

File revision: “VENKY 1”.

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 HERTZNPIXELS; 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

DMX modes

Mode	Channels	Units in one universe	First start addresses
25 channel	25	20	1, 26, 51, 76, …

No light? Check these channels

- 25 channel: CH 24 Shutter at 32–63 or 160–191 “OPEN”; CH 25 Dimmer above 0



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

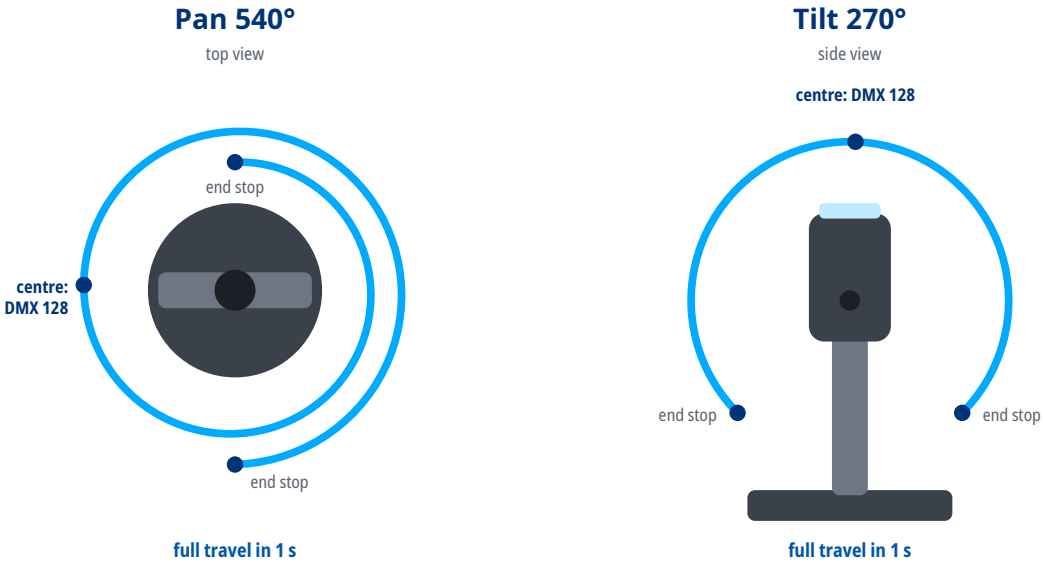
- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them 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



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.
- 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.

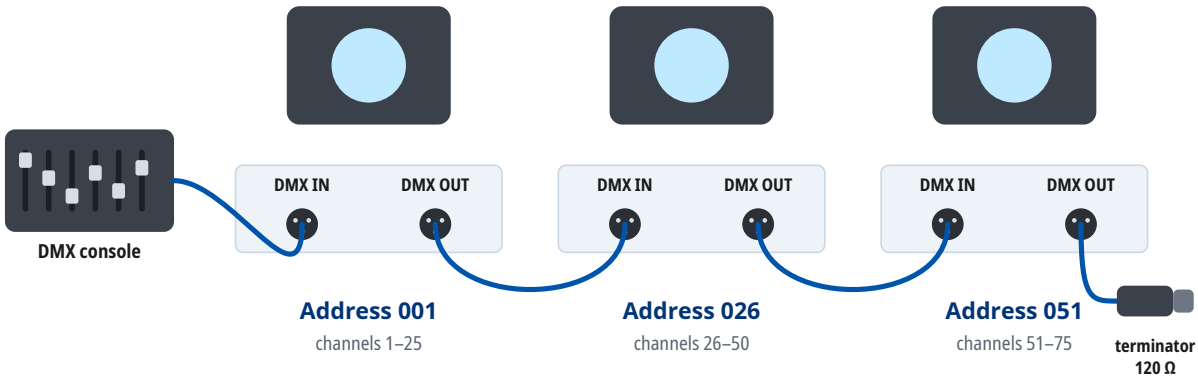
6 Connections

- 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 25 channel: every unit occupies 25 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 “25 channel”: 25.
- 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 “25 channel”, you can use, for example, the start addresses 1, 26, 51, 76.
- 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

	25 channel 25 channels
Pan / Tilt	1, 3
Dimmer	25
Shutter / strobe	24
Color mixing	10–12
Color temperature	9
Color wheel	7, 8
Gobo wheel	13, 14
Gobo rotation	13, 15
Prism	16, 17
Frost	19
Zoom	20
Focus	22

Color wheel 1

1. Open — DMX 0–28
2. Pink — DMX 29–80
3. Light orange — DMX 81–129
4. Light purple — DMX 130–181
5. Blue — DMX 182–235
6. Deep blue — DMX 236–255

Color wheel 2

1. Open — DMX 0–28
2. Deep red — DMX 29–80
3. Deep green — DMX 81–129
4. Light green — DMX 130–181
5. UV blue — DMX 182–235
6. Deep orange — DMX 236–255

Gobo wheel 1

1
Gobo 1: open
DMX 0–3

2 
Gobo 1: iris 10
DMX 4–7

3 
Gobo 1: iris 20
DMX 8–12

4 
Gobo 1: iris 30
DMX 13–16

5 
Gobo 1: iris 40
DMX 17–20

6 
Gobo 1: iris 50
DMX 21–24

7 
Gobo 1 6
DMX 25–29

8 
Gobo 1 7
DMX 30–33

9 
Gobo 1 8
DMX 34–37

10 
Gobo 1 9
DMX 38–41

11 
Gobo 1 10
DMX 42–46

12 
Gobo 1 11
DMX 47–50

13 
Gobo 1 12
DMX 51–54

14 
Gobo 1 13
DMX 55–58

15 
Gobo 1 14
DMX 59–63

16 
Gobo 1 15
DMX 64–67

17 
gobo 1 16
DMX 68–72

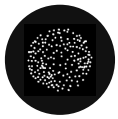
Gobo wheel 2

1
Gobo 2: open
DMX 0

2 
Gobo 2 1
DMX 5–7

3 
Gobo 2 2
DMX 8–10

4 
Gobo 2 3
DMX 11–13

5 
Gobo 2 4
DMX 14–16

6 
Gobo 2 5
DMX 17–19

7 
Gobo 2 6
DMX 20–22

8 
Gobo 2 7
DMX 23–25

9 
Gobo 2 8
DMX 26–28

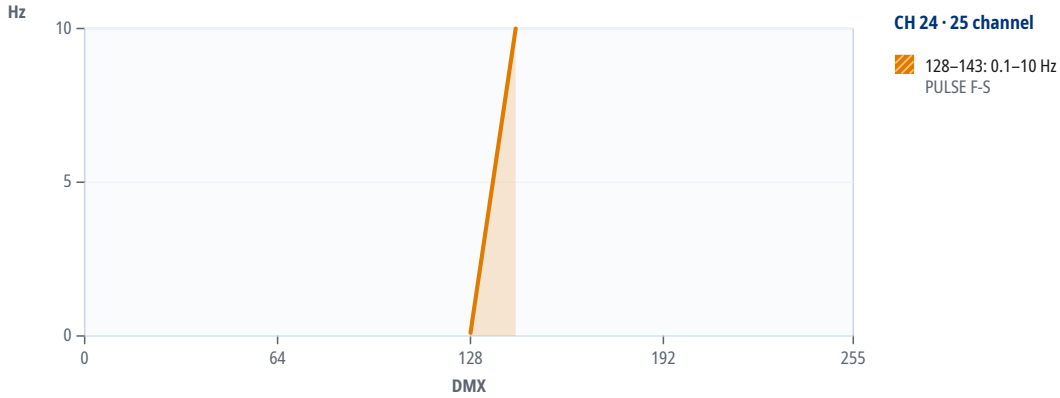
10 
gobo 2 9
DMX 29–32

Prism

1
open
DMX 0–2

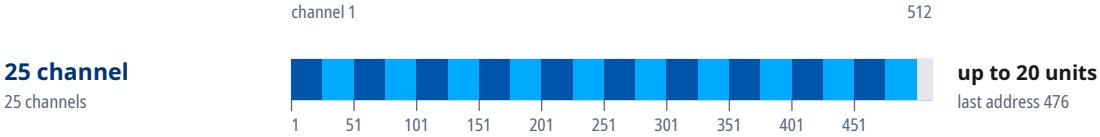
2 
8 facets
8 facet prism
DMX 2–64

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “25 channel”

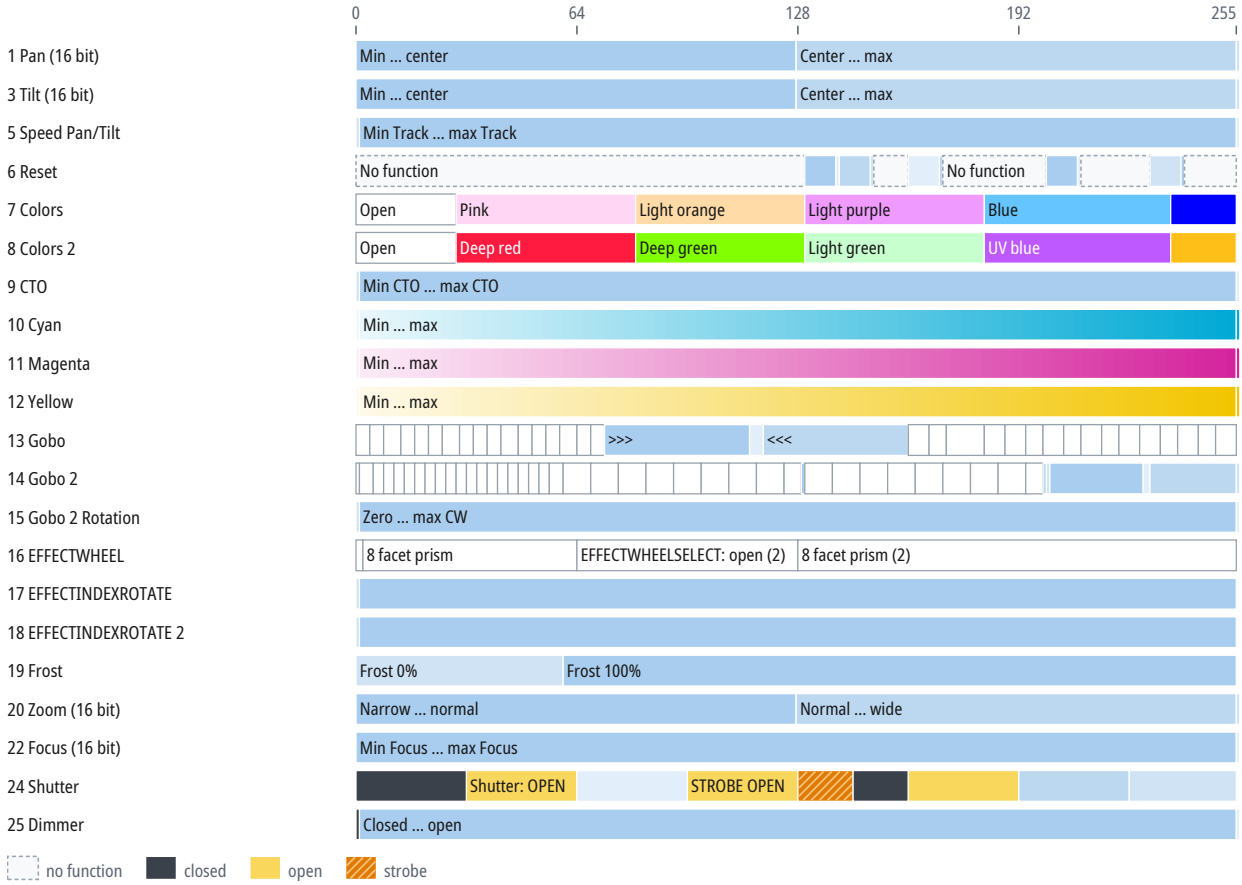
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	126	11	251	16	376
2	26	7	151	12	276	17	401
3	51	8	176	13	301	18	426
4	76	9	201	14	326	19	451
5	101	10	226	15	351	20	476

Mode 25 channel

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 24 Shutter at 32–63 or 160–191 “OPEN”; CH 25 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 7 Colors 0, CH 8 Colors 2 0, CH 10 Cyan 0, CH 11 Magenta 0, CH 12 Yellow 0, CH 24 Shutter 48, CH 25 Dimmer 255.

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
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	Min Track
		1–254	Min Track ... max Track
		255	Max Track
6	Reset	0–129	No function
		130–138	Lamp On

CH	Function	DMX	Description
6	Reset (continued)	139	LAMPON 2
		140–148	PosReset
		149	Position Reset 3
		150–159	No function
		160–168	NonPosReset
		169	FIXTURENONPOSITIONRESET 5
		170–199	No function
		200–208	Reset
		209	Fixture Global Reset 7
		210–229	No function
		230–238	Lamp Off
		239	LAMPOFF 9
		240–255	No function
7	Colors	0–28	Open
		29–80	Pink
		81–129	Light orange
		130–181	Light purple
		182–235	Blue
		236–255	Deep blue
8	Colors 2	0–28	Open
		29–80	Deep red
		81–129	Deep green
		130–181	Light green
		182–235	UV blue
		236–255	Deep orange
9	CTO	0	Min CTO
		1–254	Min CTO ... max CTO
		255	Max CTO
10	Cyan		Color RGB_R 1
		0	Min
		1–254	Min ... max
		255	Max
11	Magenta		Color RGB_G 1
		0	Min
		1–254	Min ... max
		255	Max
12	Yellow		Color RGB_B 1
		0	Min
		1–254	Min ... max
		255	Max
13	Gobo	0–3	Gobo 1: open
		4–7	Gobo 1: iris 10

CH	Function	DMX	Description
13	Gobo (continued)	8–12	Gobo 1: iris 20
		13–16	Gobo 1: iris 30
		17–20	Gobo 1: iris 40
		21–24	Gobo 1: iris 50
		25–29	Gobo 1 6
		30–33	Gobo 1 7
		34–37	Gobo 1 8
		38–41	Gobo 1 9
		42–46	Gobo 1 10
		47–50	Gobo 1 11
		51–54	Gobo 1 12
		55–58	Gobo 1 13
		59–63	Gobo 1 14
		64–67	Gobo 1 15
		68–71	Gobo 1 16
		72–113	>>>
		114–117	Gobo 1 Wheel Spin: stop
		118–159	<<<
		160–165	Gobo 1: iris 10
		166–170	Gobo 1: iris 20
		171–181	Gobo 1: iris 30
		182–187	Gobo 1: iris 40
		188–193	Gobo 1: iris 50
		194–198	Gobo 1 6
		199–204	Gobo 1 7
		205–209	Gobo 1 8
		210–215	Gobo 1 9
		216–220	Gobo 1 10
		221–226	Gobo 1 11
		227–232	Gobo 1 12
		233–237	Gobo 1 13
		238–243	Gobo 1 14
		244–248	Gobo 1 15
		249–255	Gobo 1 16
14	Gobo 2	0	Gobo 2: open
		1–4	Gobo 2: open (2)
		5–7	Gobo 2 1
		8–10	Gobo 2 2
		11–13	Gobo 2 3
		14–16	Gobo 2 4
		17–19	Gobo 2 5
		20–22	Gobo 2 6

CH	Function	DMX	Description
14	Gobo 2 (continued)	23–25	Gobo 2 7
		26–28	Gobo 2 8
		29–31	Gobo 2 9
		32–34	Gobo 2 1<>
		35–37	Gobo 2 2<>
		38–40	Gobo 2 3<>
		41–43	Gobo 2 4<>
		44–46	Gobo 2 5<>
		47–49	Gobo 2 6<>
		50–52	Gobo 2 7<>
		53–55	Gobo 2 8<>
		56–59	Gobo 2 9<>
		60–67	Gobo 2 1
		68–75	Gobo 2 2
		76–83	Gobo 2 3
		84–91	Gobo 2 4
		92–99	Gobo 2 5
		100–107	Gobo 2 6
		108–115	Gobo 2 7
		116–123	Gobo 2 8
		124–128	Gobo 2 9
		129	Gobo 2 3
		130–137	Gobo 2 1 <>
		138–145	Gobo 2 2 <>
		146–153	Gobo 2 3 <>
		154–161	Gobo 2 4 <>
		162–169	Gobo 2 5 <>
		170–177	Gobo 2 6 <>
		178–185	Gobo 2 7 <>
		186–193	Gobo 2 8 <>
		194–198	Gobo 2 9 <>
		199	Gobo 2 4
		200	>>>
		201–227	Spin2 100 1% (173.5–8.16 °/s)
		228–229	Gobo 2 Wheel Spin: stop
		230–254	Spin2 -1 -100% (1.8–166.2 °/s)
		255	<<<
15	Gobo 2 Rotation		When CH 14 is 0–31:
		0	Zero
		1–254	Zero ... max CW
		255	Max CW
			When CH 14 is 32–59:

CH	Function	DMX	Description
15	Gobo 2 Rotation (continued)	0	Stop (2)
		1	>>>
		2–127	Rotate2 100 1% (178.5–3.2 °/s)
		128–129	Stop
		130–254	Rotate2 -1 -100% (1.8–177.1 °/s)
		255	<<<
			When CH 14 is 60–129:
		0	Zero
		1–254	Zero ... max CW
		255	Max CW
			When CH 14 is 130–199:
		0	Stop (2)
		1	>>>
		2–127	Rotate2 100 1% (178.5–3.2 °/s)
		128–129	Stop
		130–254	Rotate2 -1 -100% (1.8–177.1 °/s)
		255	<<<
			When CH 14 is 200–255:
		0	Zero
		1–254	Zero ... max CW
		255	Max CW
16	EFFECTWHEEL	0–1	EFFECTWHEELSELECT: open
		2–63	8 facet prism
		64–127	EFFECTWHEELSELECT: open (2)
		128–255	8 facet prism (2)
17	EFFECTINDEXROTATE	0	Stop
		1–255	Prism 1 Pos Rotate 1
18	EFFECTINDEXROTATE 2	0	Stop
		1–255	EFFECTROTATE2 1
19	Frost	0–59	Frost 0%
		60–255	Frost 100%
20	Zoom	0–127	Narrow ... normal
		128–255	Normal ... wide
		255	Wide
21	Zoom Fine	0–255	Fine adjustment of CH 20
22	Focus	0–255	Min Focus ... max Focus
		255	Max Focus
23	Focus Fine	0–255	Fine adjustment of CH 22
24	Shutter	0–31	Shutter: CLOSED
		32–63	Shutter: OPEN
		64–95	STROBE SLOW TO FAST
		96–127	STROBE OPEN

CH	Function	DMX	Description
24	Shutter (continued)	128–143	PULSE F-S (0.1–10 Hz)
		144–159	Shutter 1: SLOW TO FAST FAST OPEN SLOW CLOSE
		160–191	Shutter 1 Strobe Random: OPEN
		192–223	RANDOM STROBE
		224–255	Shutter 1 8
25	Dimmer	0	Closed
		1–254	Closed ... open
		255	Open

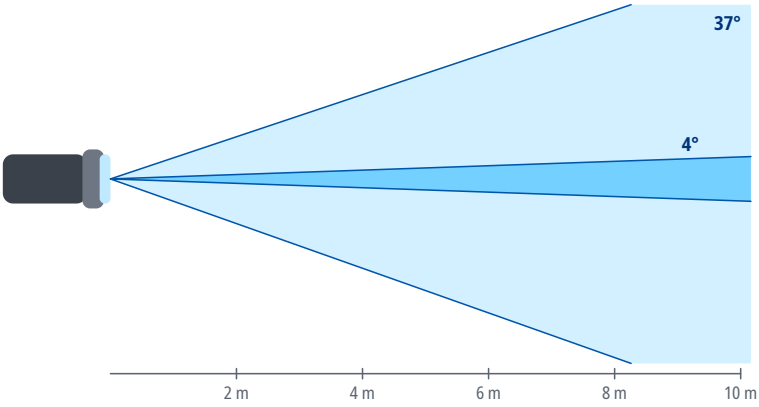
10 Technical specifications

Parameter	Value
Light source	tungsten lamp
Zoom	4–37°
Pan	540°
Tilt	270°
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Gobo wheel 1 rotation	up to 17 °/s (2.8 rpm)
Gobo wheel 2 rotation	up to 173.5 °/s (29 rpm)
Gobo 2 rotation	up to 178.5 °/s (30 rpm)

Spot diameter



Distance	Ø 4°	Ø 37°
2 m	0.14 m	1.3 m
4 m	0.28 m	2.7 m
6 m	0.42 m	4 m
8 m	0.56 m	5.4 m
10 m	0.7 m	6.7 m
15 m	1 m	10 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.