DMX REFERENCE

SPOT 460 CMY

PRstage



Manufacturer	PRstage
GDTF file	PRstage_SPOT_460_CMY_111938.gdtf
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1 About this manual

This document describes the SPOT 460 CMY by PRstage. It was compiled from the GDTF file PRstage_SPOT_460_CMY_111938.gdtf from the GDTF-Share library.

File revision: “Ver 1_4”.

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 PRstage; product names and trademarks belong to their owners.

Safety notices are marked with signal words according to the severity of the hazard: DANGER – an imminent hazard that will result in death or serious injury; WARNING – a potential hazard that could result in death or serious injury; CAUTION – a potential hazard that could result in minor injury or property damage; NOTE – additional information for correct and safe use.

> **NOTE** This product is designed for stage and effect lighting. It is not suitable for household room illumination.

2 Quick reference

Parameter	Value
Weight	24 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Standart	36	14	1, 37, 73, 109, ...

No light? Check these channels

- Standart: CH 6 Shutter at 11–21, 127–137, 202–212 or 245–255 “Open”; CH 7 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

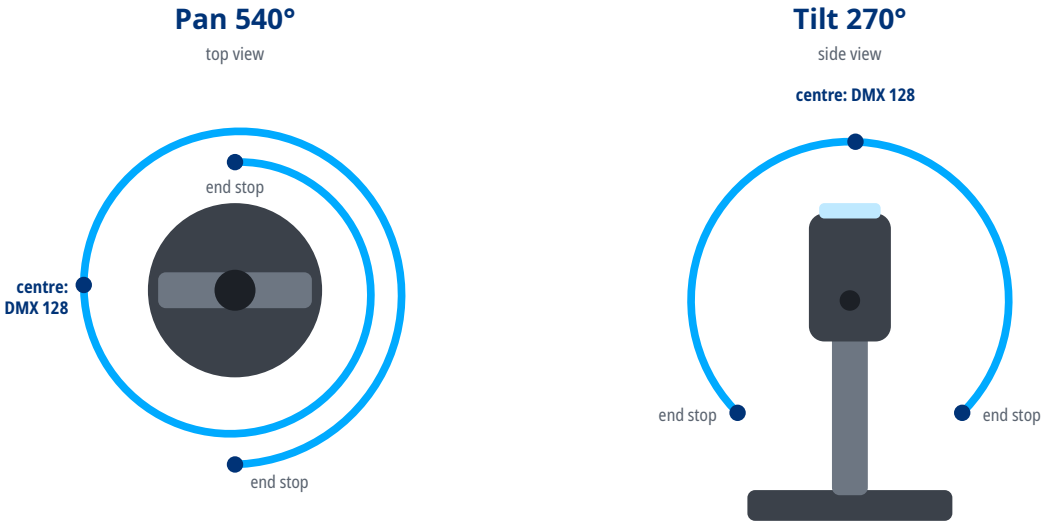
- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them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



5 Installation

⚠ WARNING

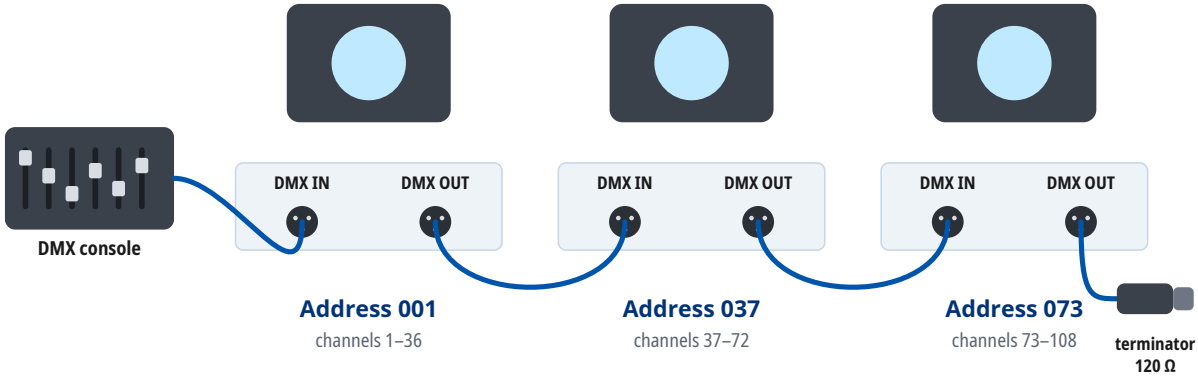
- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 24 kg.
- 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 Standart: every unit occupies 36 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 “Standart”: 36.
- 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 “Standart”, you can use, for example, the start addresses 1, 37, 73, 109.
- 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

	Standart 36 channels
Pan / Tilt	1, 3
Dimmer	7
Shutter / strobe	6
Color mixing	17, 19, 21
Color temperature	23
Color wheel	15
Gobo wheel	25, 28
Gobo rotation	26
Prism	32, 33
Frost	35
Zoom	9
Focus	11, 13
Iris	30
Animation wheel	29

Color wheel



1 Color: Open
DMX 0–15

2 Open + Red
DMX 16–22

3 Red + Green
DMX 30–36

4 Green - Blue
DMX 44–50

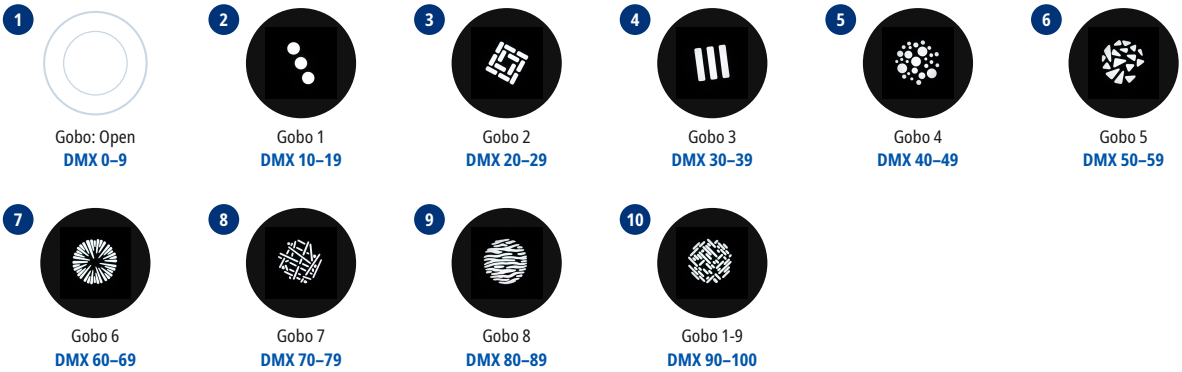
5 Blue - Yellow
DMX 58–64

6 Yellow - Amber
DMX 72–78

7 Amber - Light Magenta
DMX 86

8 Light Magenta - Magenta
DMX 100–106

Gobo wheel 1



1 Gobo: Open
DMX 0–9

2 Gobo 1
DMX 10–19

3 Gobo 2
DMX 20–29

4 Gobo 3
DMX 30–39

5 Gobo 4
DMX 40–49

6 Gobo 5
DMX 50–59

7 Gobo 6
DMX 60–69

8 Gobo 7
DMX 70–79

9 Gobo 8
DMX 80–89

10 Gobo 1-9
DMX 90–100

Gobo wheel 2

1
Gobo: Open
DMX 0–7

2 
Gobo 1
DMX 8–20

3 
Gobo 2
DMX 21–33

4 
Gobo 3
DMX 34–46

5 
Gobo 4
DMX 47–59

6 
Gobo 5
DMX 60–72

7 
Gobo 6
DMX 73–85

8 
Gobo2-7
DMX 86–99

Prism

1 
5 facets
5 Facet
DMX 128–255

2
Open
DMX 0–127

Gobo wheel 3

1
Open
DMX 0–127

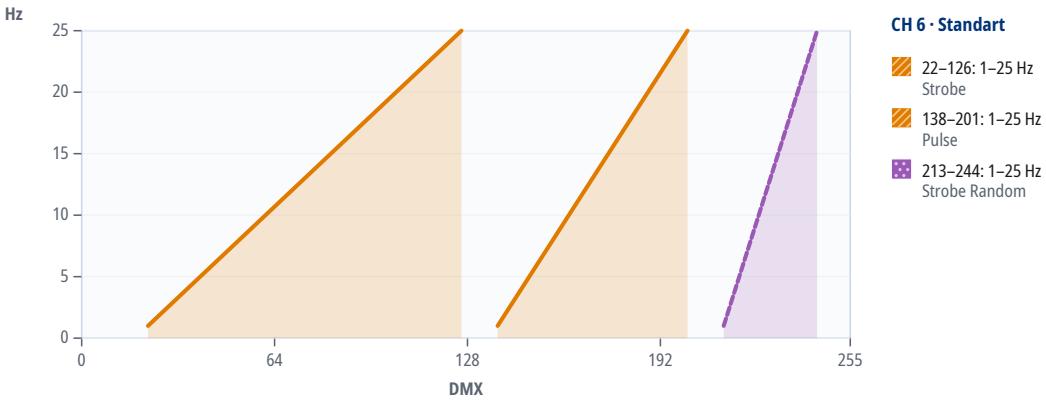
2 
Frost
DMX 128–255

Animation wheel

1
Open
DMX 0

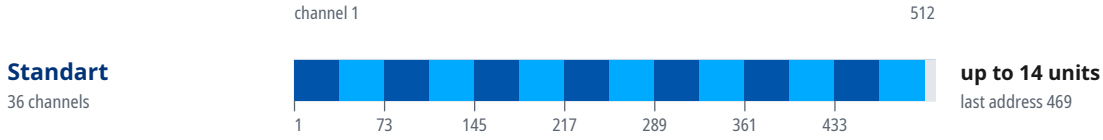
2 
Index
DMX 1–115

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Standart”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	181	11	361	16	U2 · 37
2	37	7	217	12	397	17	U2 · 73
3	73	8	253	13	433	18	U2 · 109
4	109	9	289	14	469	19	U2 · 145
5	145	10	325	15	U2 · 1	20	U2 · 181

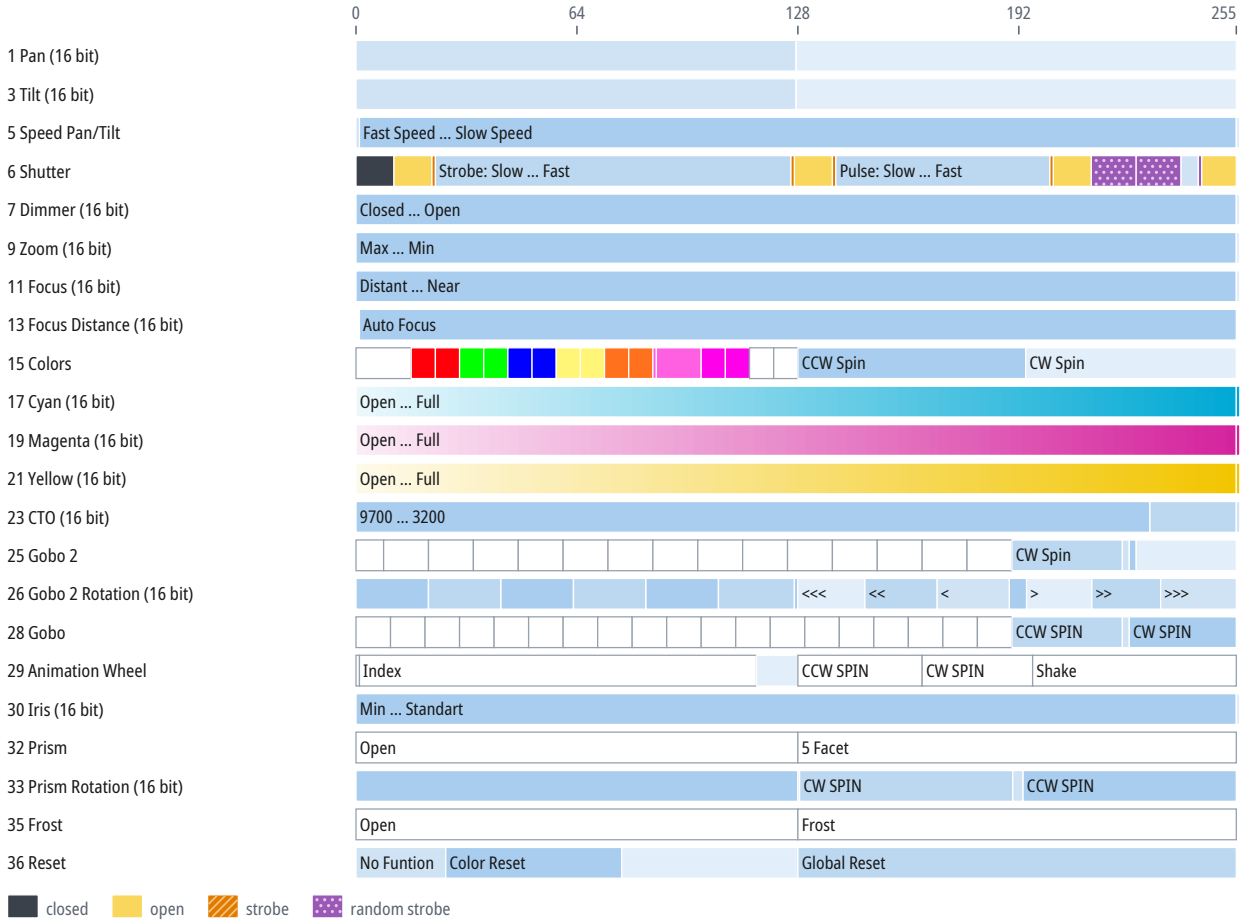
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode Standart

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 11–21, 127–137, 202–212 or 245–255 “Open”; CH 7 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 6 Shutter 255, CH 7 Dimmer 255, CH 17 Cyan 0, CH 19 Magenta 0, CH 21 Yellow 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan 1
		127	Canter
		128–255	Pan 1
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Tilt 1
		127	Center
		128–255	Tilt 1
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0	Fast Speed
		1–254	Fast Speed ... Slow Speed
		255	Slow Speed
6	Shutter	0–10	Shutter: Closed

CH	Function	DMX	Description
6	Shutter (continued)	11–21	Shutter: Open
		22	Strobe: Slow
		23–125	Strobe: Slow ... Fast
		126	Strobe: Fast
		127–137	Open
		138	Pulse: Slow
		139–200	Pulse: Slow ... Fast
		201	Pulse: Fast
		202–212	Open
		213–225	Strobe Random: Slow
		226–238	Medium
		239–243	Medium ... Fast
		244	Strobe Random: Fast
		245–255	Open
7	Dimmer	0–255	Closed ... Open
		255	Open
8	Dimmer Fine	0–255	Fine adjustment of CH 7
9	Zoom	0–255	Max ... Min
		255	Min
10	Zoom Fine	0–255	Fine adjustment of CH 9
11	Focus	0–255	Distant ... Near
		255	Near
12	Focus Fine	0–255	Fine adjustment of CH 11
13	Focus Distance	0	Auto Focus OFF
		0	5M
		0	7_5 M
		0	10 M
		0	15 M
		1–255	Auto Focus
14	Focus Distance Fine	0–255	Fine adjustment of CH 13
15	Colors	0–15	Color: Open
		16–22	Open + Red
		23–29	Red
		30–36	Red + Green
		37–43	Green
		44–50	Green - Blue
		51–57	Blue
		58–64	Blue - Yellow
		65–71	Yellow
		72–78	Yellow - Amber
		79–85	Amber
		86	Amber - Light Magenta

CH	Function	DMX	Description
15	Colors (continued)	87–99	Light Magenta
		100–106	Light Magenta - Magenta
		107–113	Magenta
		114–120	Magenta - White
		121–127	White
		128–193	CCW Spin (1000–1.2 °/s)
		194–255	CW Spin (1.2–1000 °/s)
17	Cyan	0–255	Open ... Full
		255	Full
18	Cyan Fine	0–255	Fine adjustment of CH 17
19	Magenta	0–255	Open ... Full
		255	Full
20	Magenta Fine	0–255	Fine adjustment of CH 19
21	Yellow	0–255	Open ... Full
		255	Full
22	Yellow Fine	0–255	Fine adjustment of CH 21
23	CTO	0–230	9700 ... 3200
		230–255	3200 ... 2646
		255	2646
24	CTO Fine	0–255	Fine adjustment of CH 23
25	Gobo 2	0–7	Gobo: Open
		8–20	Gobo 1
		21–33	Gobo 2
		34–46	Gobo 3
		47–59	Gobo 4
		60–72	Gobo 5
		73–85	Gobo 6
		86–98	Gobo 7
		99–111	Gobo2-1 (0.5–6 Hz)
		112–124	Gobo2-2 (0.5–6 Hz)
		125–137	Gobo2-3 (0.5–6 Hz)
		138–150	Gobo2-4 (0.5–6 Hz)
		151–163	Gobo2-5 (0.5–6 Hz)
		164–176	Gobo2-6 (0.5–6 Hz)
		177–189	Gobo2-7 (0.5–6 Hz)
		190–221	CW Spin
		222–223	Stop Spin
		224–225	CCW Spin
		226–255	Gobo 2 Wheel Spin 3
26	Gobo 2 Rotation	0–21	0 Deg ... 90 Deg
		21–42	90 Deg ... 180 Deg
		42–63	180 Deg ... 270 Deg

CH	Function	DMX	Description
26	Gobo 2 Rotation (continued)	63–84	270 Deg ... 360 Deg
		84–105	360 Deg ... 450 Deg
		105–127	450 Deg ... 540 Deg
		127	540 Deg
		127–128	Gobo 2 Pos
		128–147	<<< (1240–960 °/s)
		148–168	<< (959.9–480 °/s)
		169–189	< (479.9–0.44 °/s)
		190–194	Gobo 2 Pos Rotate: Stop
		195–213	> (0.44–479.9 °/s)
		214–233	>> (480–959.9 °/s)
		234–255	>>> (960–1240 °/s)
27	Gobo 2 Rotation Fine	0–255	Fine adjustment of CH 26
28	Gobo	0–9	Gobo: 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
		100–109	Shake Gobo 1
		110–119	Shake Gobo 2
		120–129	Shake Gobo 3
		130–139	Shake Gobo 4
		140–149	Shake Gobo 5
		150–159	Shake Gobo 6
		160–169	Shake Gobo 7
		170–179	Shake Gobo 8
		180–189	Shake Gobo 9
		190–221	CCW SPIN (540–0 °/s)
		222–223	Gobo Spin: Stop
		224–255	CW SPIN (0–540 °/s)
29	Animation Wheel	0	Open
		1–115	Index
		116–127	Index ... CCW SPIN
		128–163	CCW SPIN
		164–195	CW SPIN
		196–255	Shake
30	Iris		Iris Min/Max

CH	Function	DMX	Description
30	Iris (continued)	0–255	Min ... Standart
		255	Standart
31	Iris Fine	0–255	Fine adjustment of CH 30
32	Prism	0–127	Open
		128–255	5 Facet
33	Prism Rotation	0	0-540
		0–128	Prism 1 Pos 1
		129–190	CW SPIN
		191–193	Prism 1 Pos Rotate: Stop
		194–255	CCW SPIN
34	Prism Rotation Fine	0–255	Fine adjustment of CH 33
35	Frost	0–127	Open
		128–255	Frost
36	Reset	0–25	No Funtion
		26–76	Color Reset
		77–127	Position Reset
		128–255	Global Reset

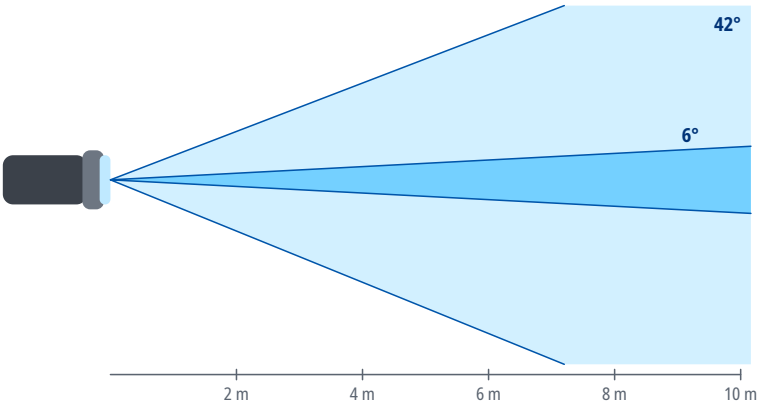
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	460 W
Luminous flux	23,000 lm
Color temperature	6,000 K
Color rendering index (CRI)	65
Optics	
Zoom	6–42°
Movement	
Pan	540°
Tilt	270°
Dimensions and construction	
Weight	24 kg
Operating environment	
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Color temperature range	2646–9700 K
Strobe frequency	1–25 Hz
Color wheel rotation	up to 1002 °/s (167 rpm)
Gobo wheel 1 rotation	up to 240 °/s (40 rpm)
Gobo 2 rotation	up to 1240 °/s (207 rpm)

Spot diameter



Distance	Ø 6°	Ø 42°
2 m	0.21 m	1.5 m
4 m	0.42 m	3.1 m
6 m	0.63 m	4.6 m
8 m	0.84 m	6.1 m
10 m	1 m	7.7 m
15 m	1.6 m	11.5 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.