DMX REFERENCE

Spyra II

Volux



Manufacturer	Volux
GDTF file	Volux_Spyra_II_117963.gdtf
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Contents

1 About this manual 2
2 Quick reference 2
3 Safety instructions 3
4 Product description 4
5 Installation 5
6 Connections 5
7 Operation 6
8 Functions at a glance 6
9 DMX channels 8
Mode1 - 18Ch 9
10 Technical specifications 12
11 Maintenance and cleaning 13
12 Troubleshooting 13
13 Disposal 14

1 About this manual

This document describes the Spyra II by Volux. It was compiled from the GDTF file Volux_Spyra_II_117963.gdtf from the GDTF-Share library.

File revision: “v002”.

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 Volux; 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	12 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Mode1 - 18Ch	18	28	1, 19, 37, 55, ...

No light? Check these channels

- Mode1 - 18Ch: CH 10 Shutter at 4–7 or 216–255


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

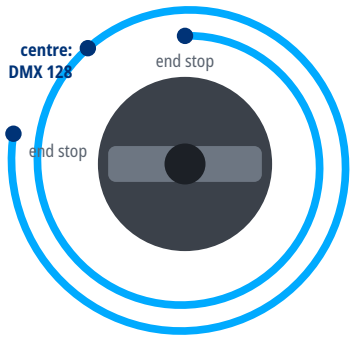
Description in the GDTF file

“Built on the success of the original SPYRA, SPYRA II increases output and creative effect capabilities while maintaining an extremely compact form factor with infinite pan/tilt. Incorporating a 200W, 8,000K cold-white LED engine, SPYRA II delivers piercing output with a sharp 2-degree, hotspot-free beam. Its refined optics optimize throw distance and features 3 dynamic overlapping prisms including a 45deg, 48-facet prism for exciting mid-air looks. SPYRA II offers fast pan/tilt movements with 360-degree infinite rotation capabilities, complemented by 13 intense colors including (2) CTO filters + CTB filter, frost filter, and 15 static gobos. All combined into a lightweight design with remarkable power efficiency.”

Range of movement

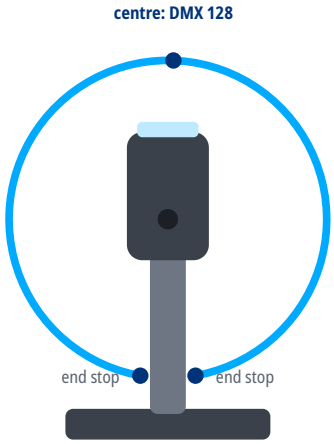
Pan 640°

top view



Tilt 360°

side view



5 Installation

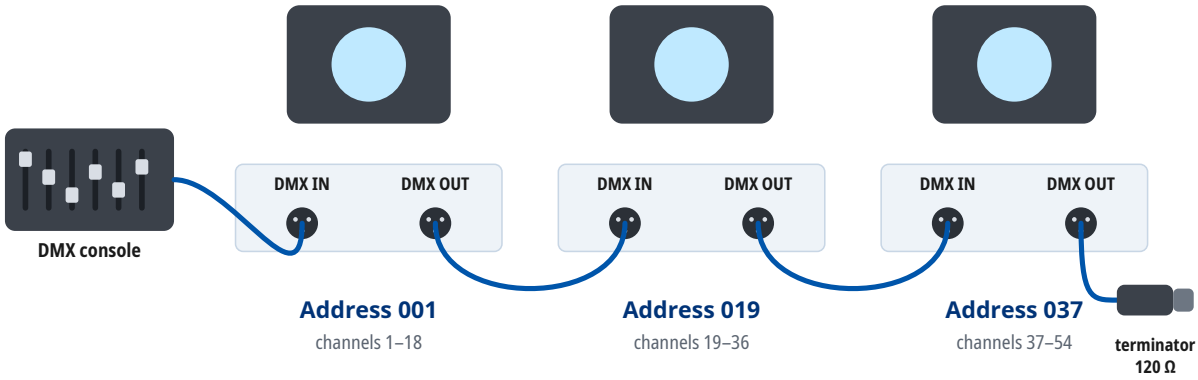
⚠ **WARNING**

- Rigging must be carried out only by qualified persons in accordance with applicable regulations, in particular those for work at height.
- The supporting structure and fixings must safely carry the weight of all suspended devices; verify their load capacity in advance.
- Weight of the device: 12 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



Mode1 - 18Ch: every unit occupies 18 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 “Mode1 - 18Ch”: 18.
- 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 “Mode1 - 18Ch”, you can use, for example, the start addresses 1, 19, 37, 55.
- 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

	Mode1 - 18Ch 18 channels
Pan / Tilt	1, 3, 6, 7
Dimmer	8
Shutter / strobe	10
Color wheel	11
Gobo wheel	12
Prism	13–16
Frost	13
Focus	17

Color wheel

1 Open - Color
DMX 0

2 Open/Red - Color
DMX 1–9

3 Red - Color
DMX 10–14

4 Red/Yellow - Color
DMX 15–19

5 Yellow - Color
DMX 20–24

6 Yellow/Blue - Color
DMX 25–29

7 Blue - Color
DMX 30–34

8 Blue/Green - Color
DMX 35–39

9 Green - Color
DMX 40–44

10 Green/Orange - Color
DMX 45–49

11 Orange - Color
DMX 50–54

12 Orange/Sea Green - Color
DMX 55–59

13 Sea Green - Color
DMX 60–64

14 Sea Green/Lime - Color
DMX 65–69

15 Lime - Color
DMX 70–74

16 Lime/Cyan - Color
DMX 75–79

17 Cyan - Color
DMX 80–84

18 Cyan/Magenta - Color
DMX 85–89

19 Magenta - Color
DMX 90–94

20 Magenta/CTO 2500K - Color
DMX 95–99

21 CTO 2500K - Color
DMX 100–104

22 CTO 2500K/CTO 3200K - Color
DMX 105–109

23 CTO 3200K - Color
DMX 110–114

24 CTO 3200K/CTB - Color
DMX 115–119

25 CTB - Color
DMX 120–124

26 CTB/UV - Color
DMX 125–129

27 UV - Color
DMX 130–134

28 UV/White
DMX 135–142

Gobo wheel

1 Open - Gobo Open
DMX 0–5

2 Gobo 1 - Gobo
DMX 6–11

3 Gobo 2 - Gobo
DMX 12–16

4 Gobo 3 - Gobo
DMX 17–22

5 Gobo 4 - Gobo
DMX 23–28

6 Gobo 5 - Gobo
DMX 29–33

7 Gobo 6 - Gobo
DMX 34–39

8 Gobo 7 - Gobo
DMX 40–44

9 Gobo 8 - Gobo
DMX 45–50

10 Gobo 9 - Gobo
DMX 51–56

11 Gobo 10 - Gobo
DMX 57–61

12 Gobo 11 - Gobo
DMX 62–67

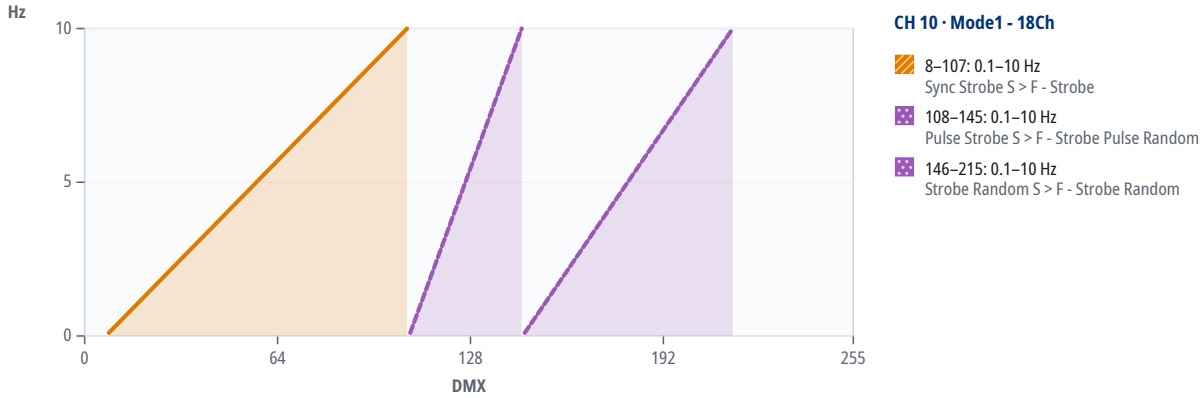
13 Gobo 12 - Gobo
DMX 68–73

14 Gobo 13 - Gobo
DMX 74–78

15 Gobo 14 - Gobo
DMX 79–84

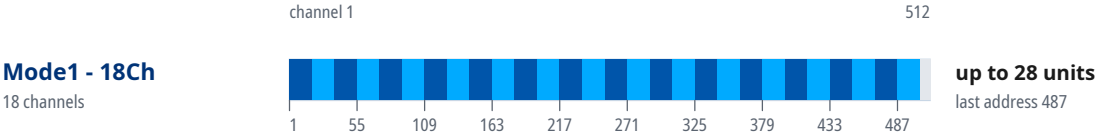
16 Gobo 15
DMX 85–90

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Mode1 - 18Ch”

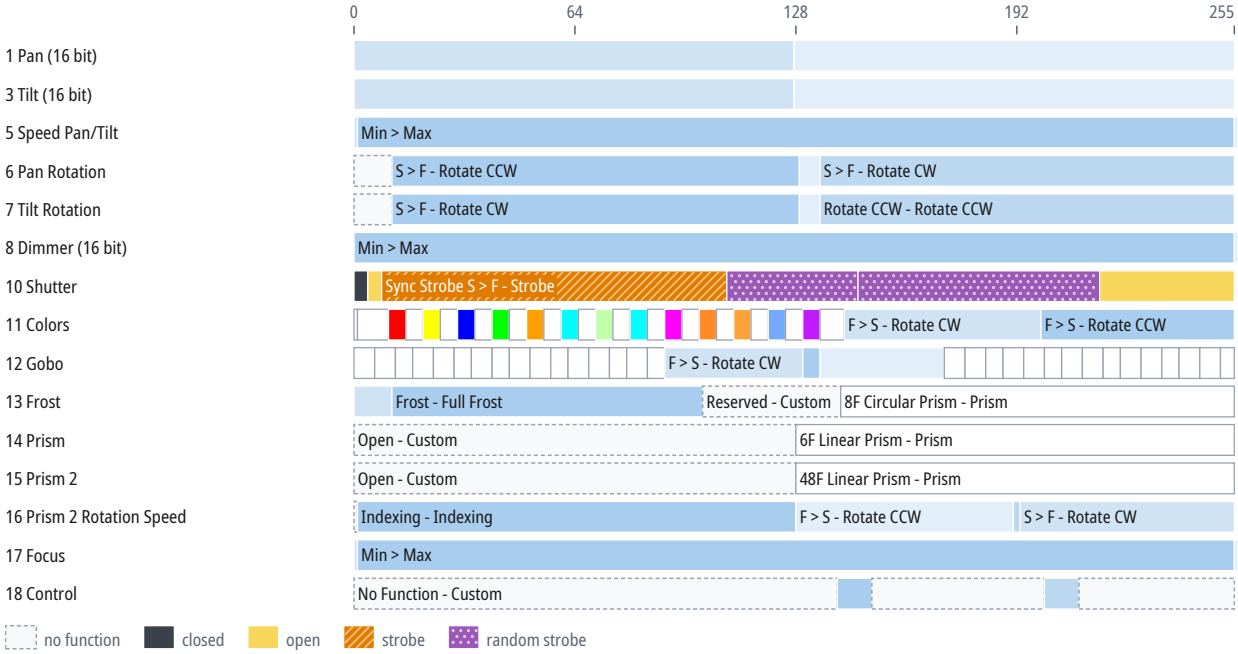
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	91	11	181	16	271
2	19	7	109	12	199	17	289
3	37	8	127	13	217	18	307
4	55	9	145	14	235	19	325
5	73	10	163	15	253	20	343

Mode1 - 18Ch

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 10 Shutter at 4–7 or 216–255. The GDTF file gives these values for a console's Highlight function: CH 8 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	PAN
		127	Home
		128–255	PAN
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	TILT
		127	Home
		128–255	TILT
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		P/T SPEED
		0	Min
		1–254	Min > Max
		255	Max
6	Pan Rotation	0–10	No Function - Custom
		11–128	S > F - Rotate CCW (0.1–10 °/s)
		129–134	Stop - Stop Loop
		135–255	S > F - Rotate CW (0.1–10 °/s)
7	Tilt Rotation	0–10	No Function - Custom
		11–128	S > F - Rotate CW (0.1–10 °/s)
		129–134	Stop - Stop Loop
		135–255	Rotate CCW - Rotate CCW

CH	Function	DMX	Description
8	Dimmer	0	Min
		0–255	Min > Max
		255	Max
9	Dimmer Fine	0–255	Fine adjustment of CH 8
10	Shutter	0–3	Closed - Shutter Closed
		4–7	CLOSED/OPEN: Open - Shutter Open
		8–107	Sync Strobe S > F - Strobe (0.1–10 Hz)
		108–145	Pulse Strobe S > F - Strobe Pulse Random (0.1–10 Hz)
		146–215	Strobe Random S > F - Strobe Random (0.1–10 Hz)
		216–255	Open - Shutter Open
11	Colors	0	Open - Color
		1–9	Open/Red - Color
		10–14	Red - Color
		15–19	Red/Yellow - Color
		20–24	Yellow - Color
		25–29	Yellow/Blue - Color
		30–34	Blue - Color
		35–39	Blue/Green - Color
		40–44	Green - Color
		45–49	Green/Orange - Color
		50–54	Orange - Color
		55–59	Orange/Sea Green - Color
		60–64	Sea Green - Color
		65–69	Sea Green/Lime - Color
		70–74	Lime - Color
		75–79	Lime/Cyan - Color
		80–84	Cyan - Color
		85–89	Cyan/Magenta - Color
		90–94	Magenta - Color
		95–99	Magenta/CTO 2500K - Color
		100–104	CTO 2500K - Color
		105–109	CTO 2500K/CTO 3200K - Color
		110–114	CTO 3200K - Color
		115–119	CTO 3200K/CTB - Color
		120–124	CTB - Color
		125–129	CTB/UV - Color
		130–134	UV - Color
		135–141	UV/White - Color
		142–198	F > S - Rotate CW (80–0.1 °/s)
		199–255	F > S - Rotate CCW (0.1–80 °/s)
12	Gobo	0–5	Open - Gobo Open
		6–11	Gobo 1 - Gobo

CH	Function	DMX	Description
12	Gobo (continued)	12–16	Gobo 2 - Gobo
		17–22	Gobo 3 - Gobo
		23–28	Gobo 4 - Gobo
		29–33	Gobo 5 - Gobo
		34–39	Gobo 6 - Gobo
		40–44	Gobo 7 - Gobo
		45–50	Gobo 8 - Gobo
		51–56	Gobo 9 - Gobo
		57–61	Gobo 10 - Gobo
		62–67	Gobo 11 - Gobo
		68–73	Gobo 12 - Gobo
		74–78	Gobo 13 - Gobo
		79–84	Gobo 14 - Gobo
		85–89	Gobo 15 - Gobo
		90–129	F > S - Rotate CW (80–0.1 °/s)
		130–134	Stop - Stop Loop
		135–170	F > S - Rotate CCW (0.1–80 °/s)
		171–176	Gobo 1 Shake - Gobo Shake (10–0.1 Hz)
		177–182	Gobo 2 Shake - Gobo Shake (0.1–10 Hz)
		183–187	Gobo 3 Shake - Gobo Shake (0.1–10 Hz)
		188–193	Gobo 4 Shake - Gobo Shake (0.1–10 Hz)
		194–199	Gobo 5 Shake - Gobo Shake (0.1–10 Hz)
		200–204	Gobo 6 Shake - Gobo Shake (0.1–10 Hz)
		205–210	Gobo 7 Shake - Gobo Shake (0.1–10 Hz)
		211–216	Gobo 8 Shake - Gobo Shake (0.1–10 Hz)
		217–221	Gobo 9 Shake - Gobo Shake (0.1–10 Hz)
		222–227	Gobo 10 Shake - Gobo Shake (0.1–10 Hz)
		228–233	Gobo 11 Shake - Gobo Shake (0.1–10 Hz)
		234–238	Gobo 12 Shake - Gobo Shake (0.1–10 Hz)
		239–244	Gobo 13 Shake - Gobo Shake (0.1–10 Hz)
		245–250	Gobo 14 Shake - Gobo Shake (0.1–10 Hz)
		251–255	Gobo 15 Shake - Gobo Shake (0.1–10 Hz)
13	Frost	0–10	Frost Open - Frost Open
		11–100	Frost - Full Frost
		101–140	Reserved - Custom
		141–255	8F Circular Prism - Prism
14	Prism	0–127	Open - Custom
		128–255	6F Linear Prism - Prism
15	Prism 2	0–127	Open - Custom
		128–255	48F Linear Prism - Prism
16	Prism 2 Rotation Speed	0	No Effect - Custom
		1–127	Indexing - Indexing (360°)

CH	Function	DMX	Description
16	Prism 2 Rotation Speed (continued)	128–190	F > S - Rotate CCW (655–0.1 °/s)
		191–192	Stop - Stop Loop
		193–255	S > F - Rotate CW (0.1–655 °/s)
17	Focus	0	Min
		1–254	Min > Max
		255	Max
18	Control	0–139	No Function - Custom
		140–149	Reset P/T - Reset
		150–199	RESERVED: No Function - Custom
		200–209	Reset All - Reset
		210–255	No Feature: No Function - Custom

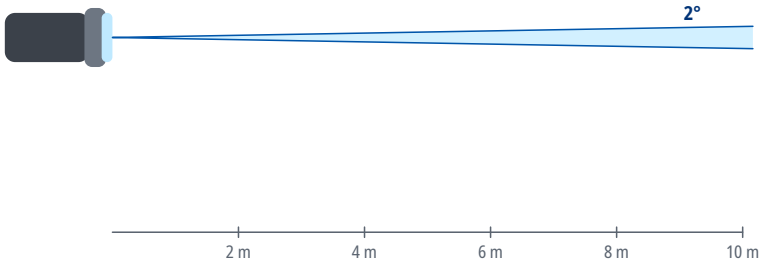
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	200 W
Luminous flux	9,200 lm
Color temperature	8,000 K
Color rendering index (CRI)	70
Optics	
Beam angle	2°
Movement	
Pan	640°
Tilt	360°
Dimensions and construction	
Weight	12 kg
Operating environment	
Operating temperature	-10 to 50 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0.1–10 Hz
Color wheel rotation	up to 80 °/s (13 rpm)
Gobo wheel rotation	up to 80 °/s (13 rpm)
Prism rotation	up to 655 °/s (109 rpm)

Spot diameter



Distance	Ø 2°
2 m	0.07 m
4 m	0.14 m
6 m	0.21 m
8 m	0.28 m
10 m	0.35 m
15 m	0.52 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.