DMX REFERENCE

X-4GT

Jolly

Manufacturer	Jolly
GDTF file	Jolly_X-4GT_25826.gdtf
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1 About this manual

This document describes the X-4GT by Jolly. It was compiled from the GDTF file Jolly_X-4GT_25826.gdtf from the GDTF-Share library.

File revision: “Mode 1 Done”.

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 Jolly; 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
Mode1	24	21	1, 25, 49, 73, ...

No light? Check these channels

- Mode1: CH 20 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”; CH 21 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

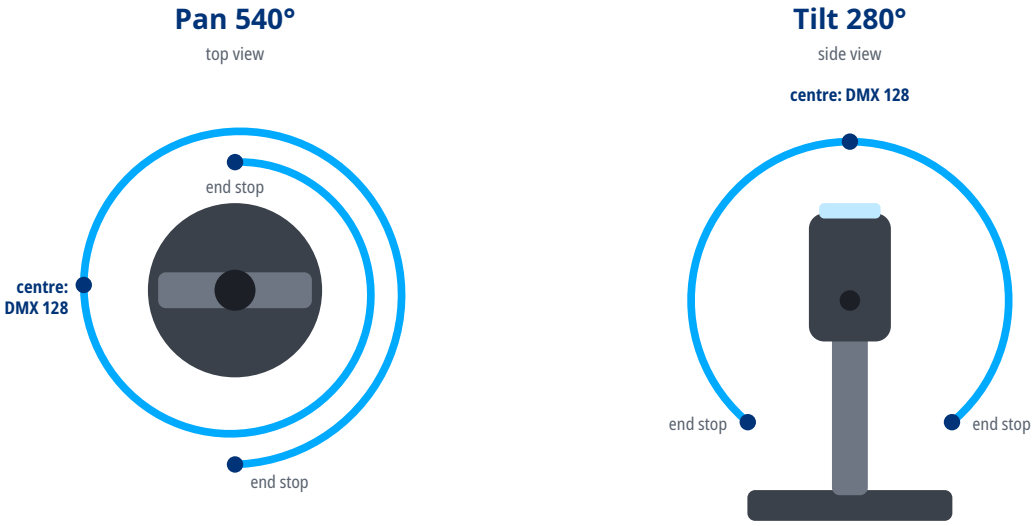
- Strobe and fast flashing light effects can trigger epileptic seizures in susceptible people (photosensitive epilepsy) and can cause nausea or disorientation.
- Inform the audience and performers in advance that strobe effects will be used, for example with a notice at the entrance, and do not use them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

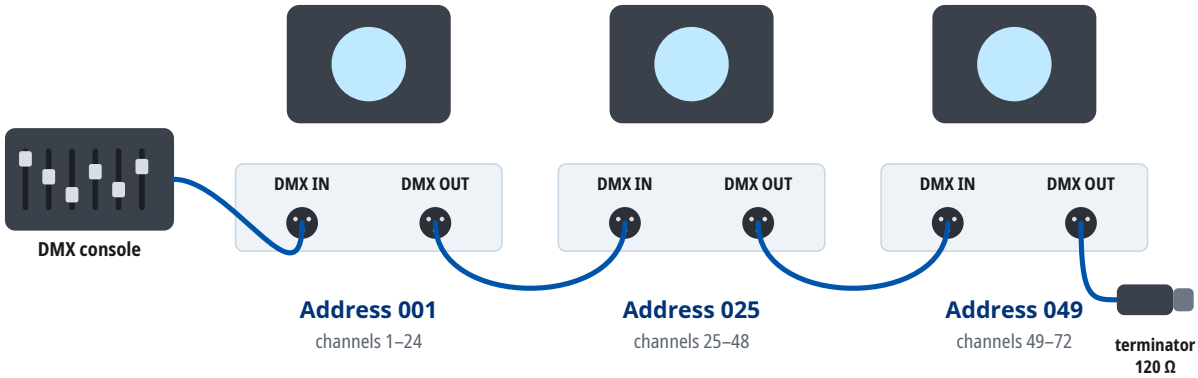
6 Connections

- 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: every unit occupies 24 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

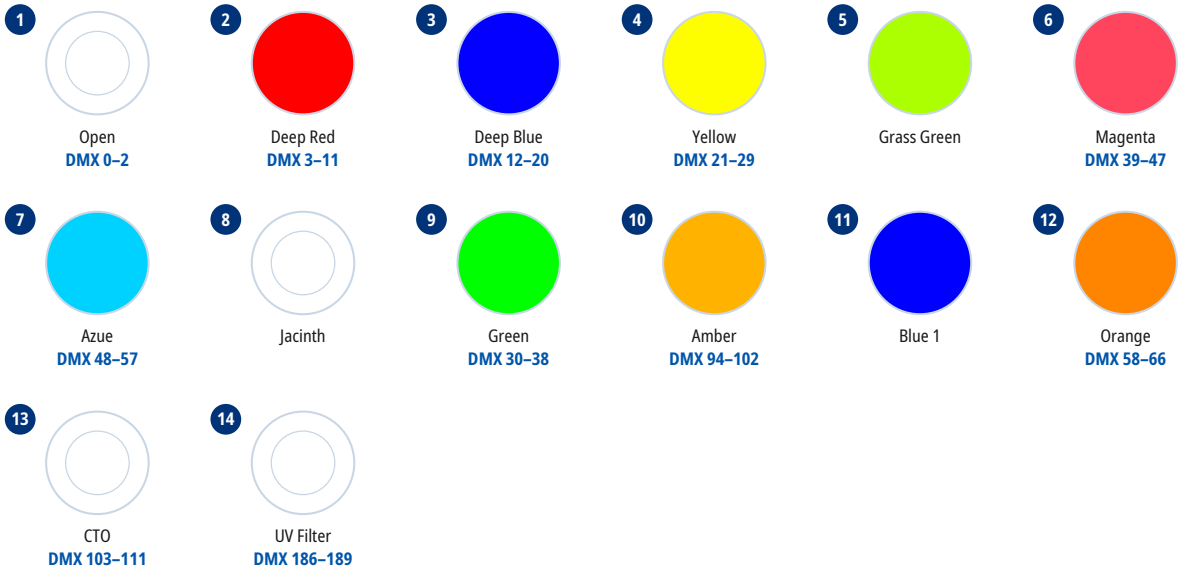
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Mode1”: 24.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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”, you can use, for example, the start addresses 1, 25, 49, 73.
- 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 24 channels	Mode2 0 channels	Mode3 0 channels
Pan / Tilt	1, 3		
Dimmer	21		
Shutter / strobe	20		
Color wheel	6		
Gobo wheel	8, 9		
Gobo rotation	10		
Prism	12, 13		
Frost	14		
Zoom	15		
Focus	17		
Effects / macros	24		

Color wheel



Gobo wheel 1

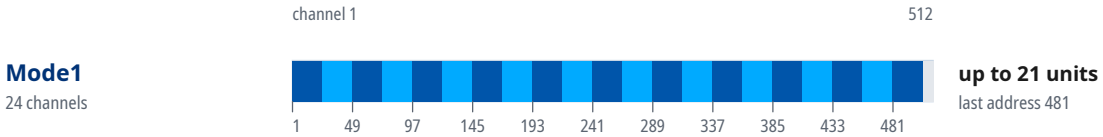
1 Wheel Slot 1	5 Wheel Slot 5	9 Wheel Slot 9
2 Wheel Slot 2	6 Wheel Slot 6	10 Wheel Slot 10
3 Wheel Slot 3	7 Wheel Slot 7	
4 Wheel Slot 4	8 Wheel Slot 8	

Gobo wheel 2

1 Wheel Slot 1	6 Wheel Slot 6	11 Wheel Slot 11
2 Wheel Slot 2	7 Wheel Slot 7	12 Wheel Slot 12
3 Wheel Slot 3	8 Wheel Slot 8	13 Wheel Slot 13
4 Wheel Slot 4	9 Wheel Slot 9	14 Wheel Slot 14
5 Wheel Slot 5	10 Wheel Slot 10	15 Wheel Slot 15

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Mode1”

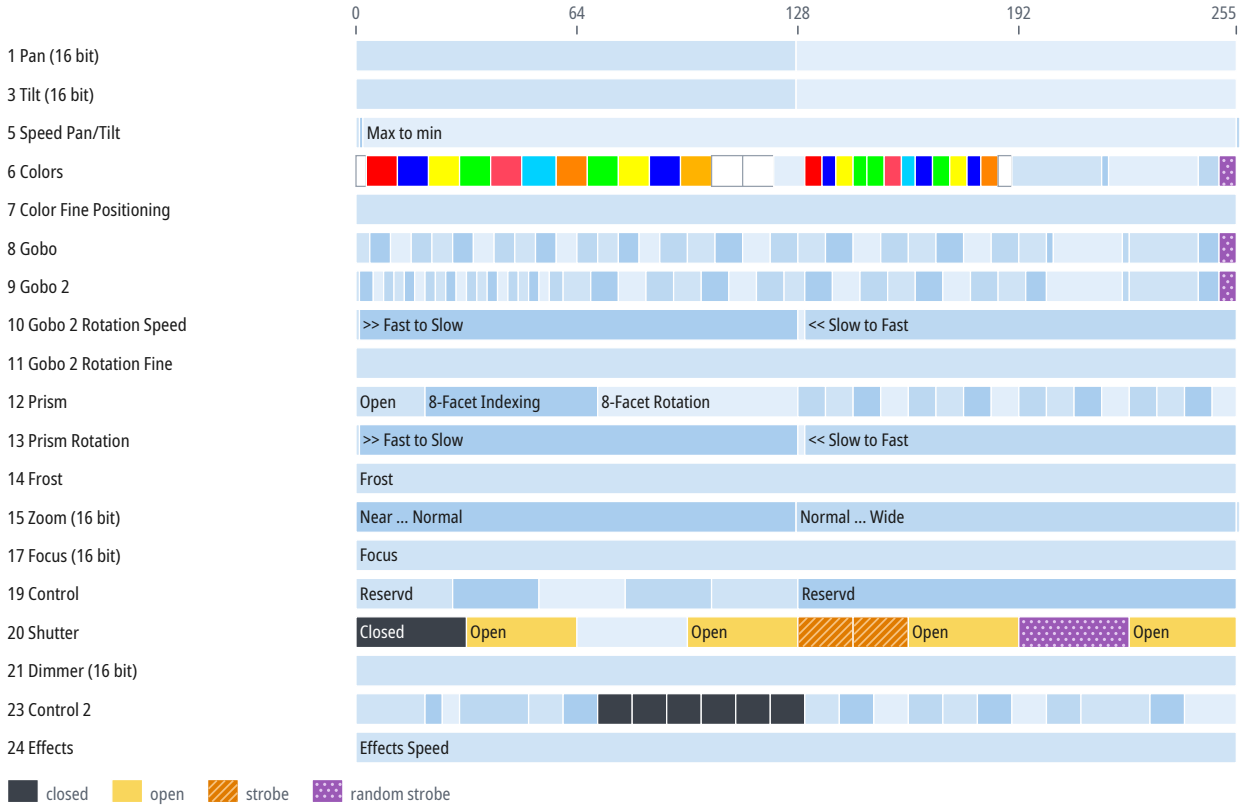
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	121	11	241	16	361
2	25	7	145	12	265	17	385
3	49	8	169	13	289	18	409
4	73	9	193	14	313	19	433
5	97	10	217	15	337	20	457

Mode1

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 20 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”; CH 21 Dimmer above 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Pan
		128	Center
		128–255	Pan
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Tilt
		128	Center
		128–255	Tilt
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt		Pan/Tilt speed + time
		0	Standard mode
		1	Max
		2–254	Max to min
		255	Min
6	Colors		Color Wheel
		0–2	Open
		3–11	Deep Red

CH	Function	DMX	Description
6	Colors (continued)	12–20	Deep Blue
		21–29	Yellow
		30–38	Green
		39–47	Magenta
		48–57	Azue
		58–66	Orange
		67–75	Green
		76–84	Yellow
		85–93	Blue
		94–102	Amber
		103–111	CTO
		112–120	Open
		121–129	Open ... Deep Red
		130–134	Deep Red
		135–138	Deep Blue
		139–143	Yellow
		144–152	Green
		153–157	Magenta
		158–161	Azure
		162–166	Deep Blue
		167–171	Green
		172–176	Yellow
		177–180	Blue
		181–185	Orange
		186–189	UV Filter
		190–215	>> Fast to Slow
		216–217	Stopp
		218–243	<< Slow to Fast
		244–249	Reserved
		250–255	Random Slow to Fast
7	Color Fine Positioning	0–255	
8	Gobo		Static Gobo Wheel
		0–3	Open
		4–9	Gobo 1
		10–15	Gobo 2
		16–21	Gobo 3
		22–27	Gobo 4
		28–33	Gobo 5
		34–39	Gobo 6
		40–45	Gobo 7
		46–51	Gobo 8
		52–57	Gobo 9

CH	Function	DMX	Description
8	Gobo (continued)	58–63	Gobo 10
		64–69	Beam Reducer 1
		70–75	Beam Reducer 2
		76–81	Beam Reducer 3
		82–87	Beam Reducer 4
		88–95	Shaking Gobo 1
		96–103	Shaking Gobo 2
		104–111	Shaking Gobo 3
		112–119	Shaking Gobo 4
		120–127	Shaking Gobo 5
		128–135	Shaking Gobo 6
		136–143	Shaking Gobo 7
		144–151	Shaking Gobo 8
		152–159	Shaking Gobo 9
		160–167	Shaking Gobo 10
		168–175	Shaking Beam Reducer 1
		176–183	Shaking Beam Reducer 2
		184–191	Shaking Beam Reducer 3
		192–199	Shaking Beam Reducer 4
		200–201	Open
		202–221	>> Fast to Slow
		222–223	Stopp
		224–243	<< Slow to Fast
		244–249	Reserved
		250–255	Random Fast to Slow
9	Gobo 2		Rotating Gobo Wheel
		0	Open
		1–4	Hole
		5–7	Gobo 1 Index
		8–10	Gobo 2 Index
		11–13	Gobo 3 Index
		14–16	Gobo 4 Index
		17–19	Gobo 5 Index
		20–22	Gobo 6 Index
		23–25	Gobo 7 Index
		26–28	Gobo 8 Index
		29–31	Gobo 9 Index
		32–34	Gobo 1 Rotation
		35–37	Gobo 2 Rotation
		38–40	Gobo 3 Rotation
		41–43	Gobo 4 Rotation
		44–46	Gobo 5 Rotation

CH	Function	DMX	Description
9	Gobo 2 (continued)	47–49	Gobo 6 Rotation
		50–52	Gobo 7 Rotation
		53–55	Gobo 8 Rotation
		56–59	Gobo 9 Rotation
		60–67	Shaking Gobo 1 Index
		68–75	Shaking Gobo 2 Index
		76–83	Shaking Gobo 3 Index
		84–91	Shaking Gobo 4 Index
		92–99	Shaking Gobo 5 Index
		100–107	Shaking Gobo 6 Index
		108–115	Shaking Gobo 7 Index
		116–123	Shaking Gobo 8 Index
		124–129	Shaking Gobo 9 Index
		130–137	Shaking Gobo 1 Rotation
		138–145	Shaking Gobo 2 Rotation
		146–153	Shaking Gobo 3 Rotation
		154–161	Shaking Gobo 4 Rotation
		162–169	Shaking Gobo 5 Rotation
		170–177	Shaking Gobo 6 Rotation
		178–185	Shaking Gobo 7 Rotation
		186–193	Shaking Gobo 8 Rotation
		194–199	Shaking Gobo 9 Rotation
		200–221	>> Fast to Slow
		222–223	Stopp
		224–243	<< Slow to Fast
		244–249	Reserved
		250–255	Random Fast to Slow
10	Gobo 2 Rotation Speed		Rotating Gobo Wheel Rotation
		0	Stopp
		1–127	>> Fast to Slow
		128–129	Stopp
		130–255	<< Slow to Fast
11	Gobo 2 Rotation Fine	0–255	
12	Prism	0–19	Open
		20–69	8-Facet Indexing
		70–127	8-Facet Rotation
		128–135	Macro 1
		136–143	Macro 2
		144–151	Macro 3
		152–159	Macro 4
		160–167	Macro 5
		168–175	Macro 6

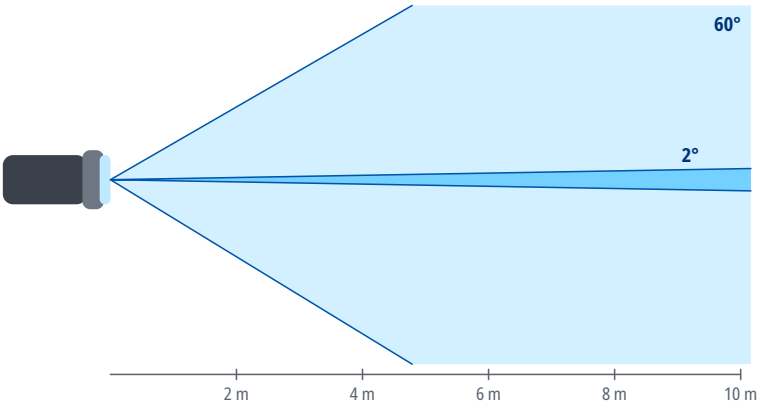
CH	Function	DMX	Description
12	Prism (continued)	176–183	Macro 7
		184–191	Macro 8
		192–199	Macro 9
		200–207	Macro 10
		208–215	Macro 11
		216–223	Macro 12
		224–231	Macro 13
		232–239	Macro 14
		240–247	Macro 15
		248–255	Macro 16
13	Prism Rotation	0	Stopp
		1–127	>> Fast to Slow
		128–129	Stopp
		130–255	<< Slow to Fast
14	Frost	0–255	Frost
15	Zoom	0–127	Near ... Normal
		128–255	Normal ... Wide
		255	Wide
16	Zoom Fine	0–255	Fine adjustment of CH 15
17	Focus	0–255	Focus
18	Focus Fine	0–255	Fine adjustment of CH 17
19	Control		Control Autofocus
		0–27	Reservd
		28–52	Disable Autofocus
		53–77	Autofocus 8m
		78–102	Autofocus 12m
		103–127	Autofocus 20m
		128–255	Reservd
20	Shutter	0–31	Closed
		32–63	Open
		64–95	Stobe Slow to Fast
		96–127	Open
		128–143	In Pulse Slow to Fast
		144–159	Out Pulse Slow to Fast
		160–191	Open
		192–223	Random Slow to Fast
		224–255	Open
21	Dimmer	0–255	
22	Dimmer Fine	0–255	Fine adjustment of CH 21
23	Control 2	0–19	Reserved
		20–24	Eco Mode
		25–29	Standard Mode

CH	Function	DMX	Description
23	Control 2 (continued)	30–49	Reserved
		50–59	Pan/Tilt speed mode
		60–69	Pan/Tilit time mode
		70–79	Blackout while Pan/Tiilt moving
		80–89	Disable Blackout while Pan/Tilit
		90–99	Blackout while Color moving
		100–109	Disable Blackout while Color moving
		110–119	Blackout while Gobo moving
		120–129	Disable Blackout while Gobo moving
		130–139	LampOn + Reset
		140–149	Pan + Tilit Reset
		150–159	Color Reset
		160–169	Gobo Reset
		170–179	Dimmer + Shutter Reset
		180–189	Zoom + Focus + Prism Reset
		190–199	Reserved
		200–209	Total Reset
		210–229	Reserved
		230–239	Lamp Off
		240–255	Reserved
24	Effects		Effects Speed
		0–255	Effects Speed

10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	1,000 W
Luminous flux	1,000 lm
Color temperature	6,000 K
Color rendering index (CRI)	100
Optics	
Zoom	2–60°
Movement	
Pan	540°
Tilt	280°
Operating environment	
Operating temperature	0 to 40 °C

Spot diameter



Distance	Ø 2°	Ø 60°
2 m	0.07 m	2.3 m
4 m	0.14 m	4.6 m
6 m	0.21 m	6.9 m
8 m	0.28 m	9.2 m
10 m	0.35 m	11.5 m
15 m	0.52 m	17.3 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.