DMX REFERENCE

GLB12 IP

Terbly GLB12 IP

Terbly



Manufacturer	Terbly
GDTF file	Terbly_GLB12_IP_30064.gdtf
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Contents

1 About this manual 2
2 Quick reference 3
3 Safety instructions 4
4 Product description 5
5 Installation 5
6 Connections 6
7 Operation 6
8 Functions at a glance 7
9 DMX channels 9
Mode Standard 9
Mode Extended 14
Mode RGBW Pixel 15
Mode Strobe Pixel 16
10 Technical specifications 17
11 Maintenance and cleaning 17
12 Troubleshooting 18
13 Disposal 18

1 About this manual

This document describes the Terbly GLB12 IP by Terbly. It was compiled from the GDTF file Terbly_GLB12_IP_30064.gdtf from the GDTF-Share library.

File revision: “Offical”.

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 Terbly; 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	33 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Standard	25	20	1, 26, 51, 76, ...
Extended	134	3	1, 135, 269
RGBW Pixel	4	128	1, 5, 9, 13, ...
Strobe Pixel	1	512	1, 2, 3, 4, ...

No light? Check these channels

- Standard: CH 4 Shutter 1 at 63 “Open” or 96–127 or 160–191 or 224–255; CH 5 Dimmer 1 above 0; CH 24 Shutter 2 at 63 “Open” or 96–127 or 160–191 or 224–255; CH 25 Dimmer 2 above 0
- Extended: CH 4 Shutter 1 at 63 “Open” or 96–127 or 160–191 or 224–255; CH 5 Dimmer 1 above 0; CH 68 Shutter 2 at 63 “Open” or 96–127 or 160–191 or 224–255; CH 69 Dimmer 2 above 0; CH 71 Dimmer above 0 (the same in each of the 64 cells)
- Strobe Pixel: CH 1 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

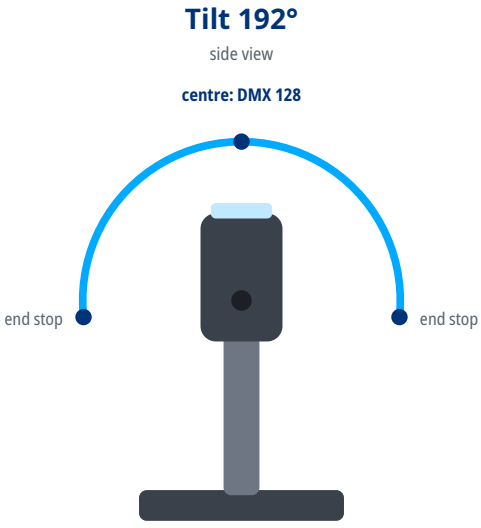
- The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
- Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts,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

Description in the GDTF file

“12 pcs 60W Osram RGBW LEDs 256 pcs 1W Strobe LEDs”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

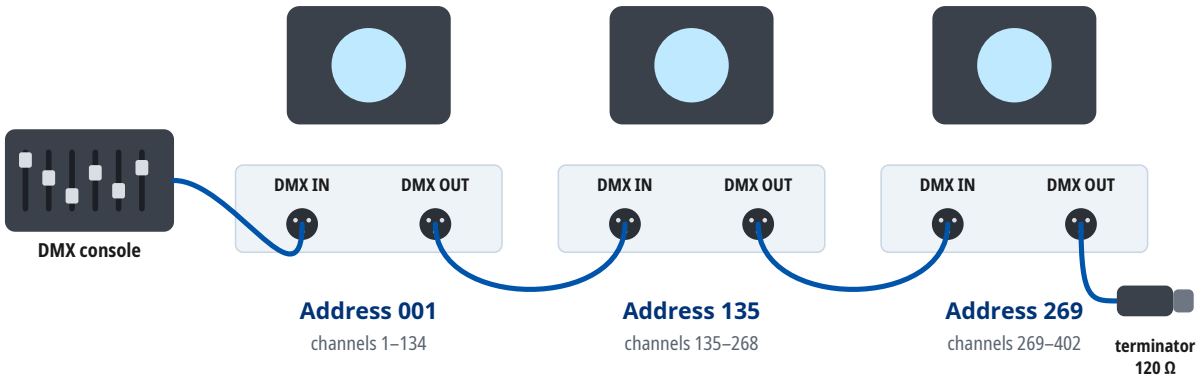
⚠ WARNING

- 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: 33 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 134 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”: 134.
- 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, 135, 269.
- 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

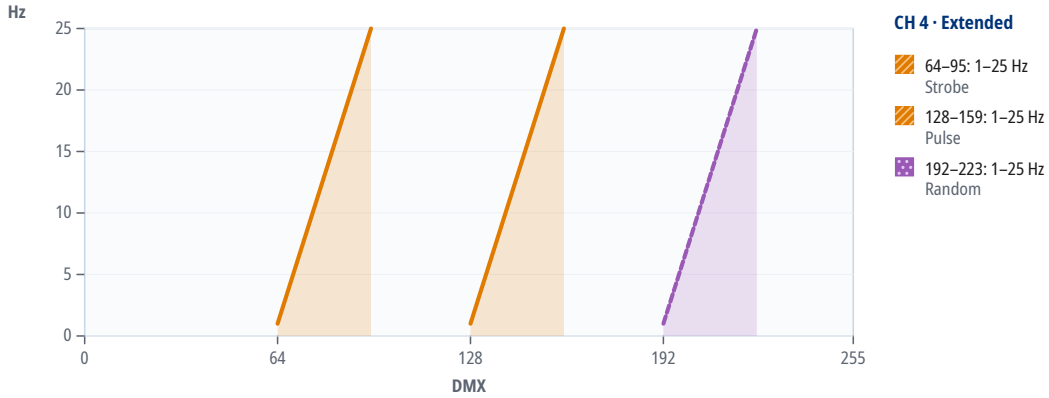
Functions in each DMX mode

	Standard 25 channels	Extended 134 channels	RGBW Pixel 4 channels	Strobe Pixel 1 channel
Pan / Tilt	**1**	**1**		
Dimmer	**5, 25**	**5, 69, 71–134**	✓	**1–64**
Dimmer resolution	8 bit	16 bit		8 bit
Shutter / strobe	**4, 24**	**4, 68**		
Color mixing	**4× (8–14)**	**20–67**	**1–48**	
Color wheel	**17**	**13**		
Zoom	**7**	**8, 10**		
Effects / macros	**16, 19–21**	**12, 15–17**		
Pixel control		**12 + 64 cells**		

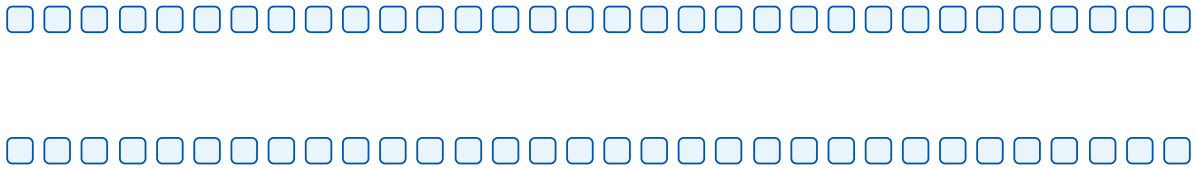
Color wheel

1 No function **DMX 0–4**	2 2700K **DMX 5–9**	3 3200K **DMX 10–14**	4 4300K **DMX 15–19**	5 5600K **DMX 20–24**	6 6500K **DMX 25–29**
7 8000K **DMX 30–34**	8 Red **DMX 35–39**	9 Green **DMX 40–44**	10 Blue **DMX 45–49**	11 Natural White **DMX 50–54**	12 Full White **DMX 55–59**
13 Yellow **DMX 60–64**	14 Magenta **DMX 65–69**	15 Cyan **DMX 70–74**	16 Salmon **DMX 75–79**	17 Turquoise **DMX 80–84**	18 Light Green **DMX 85–89**
19 Steel Blue **DMX 90–94**	20 Orange **DMX 95–99**	21 Straw **DMX 100–104**	22 Pale Lavander **DMX 105–109**	23 Pink **DMX 110–114**	24 Red/White **DMX 115–119**
25 Green/Red **DMX 120–124**	26 Blue/Red **DMX 125–129**	27 White/Red **DMX 130–134**	28 White/Pink **DMX 135–139**	29 White/Turquoise **DMX 140–144**	30 Small Red/White **DMX 145–149**

Strobe rate



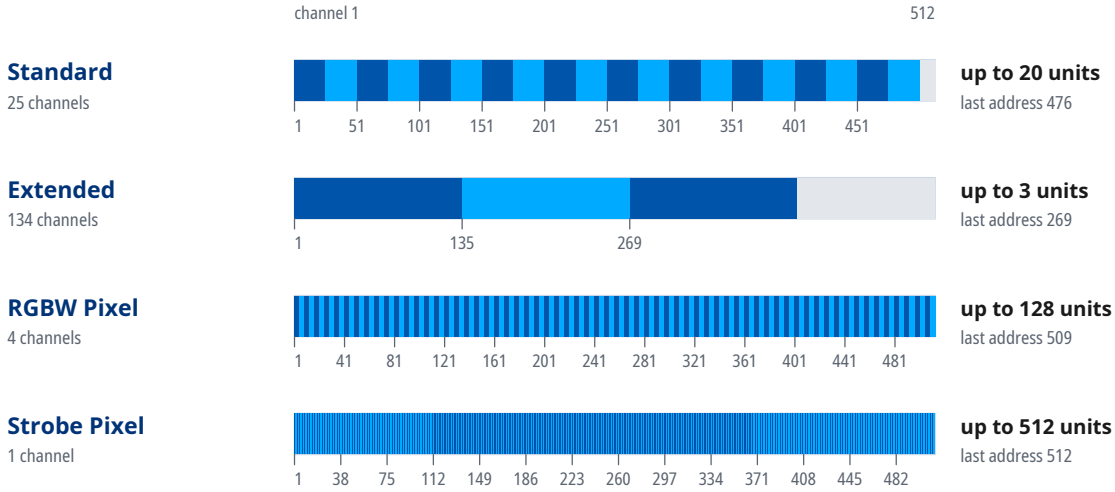
Cells (pixels)



Cells where the GDTF file places them (seen from above), 64 in all in the mode “Extended”.

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	U2 · 269	11	U4 · 135	16	U6 · 1
2	135	7	U3 · 1	12	U4 · 269	17	U6 · 135
3	269	8	U3 · 135	13	U5 · 1	18	U6 · 269
4	U2 · 1	9	U3 · 269	14	U5 · 135	19	U7 · 1
5	U2 · 135	10	U4 · 1	15	U5 · 269	20	U7 · 135

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 Standard

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 4 Shutter 1 at 63 “Open” or 96–127 or 160–191 or 224–255; CH 5 Dimmer 1 above 0; CH 24 Shutter 2 at 63 “Open” or 96–127 or 160–191 or 224–255; CH 25 Dimmer 2 above 0. The GDTF file gives these values for a console's Highlight function: CH 4 Shutter 1 63, CH 5 Dimmer 1 255, CH 8 Red 255, CH 10 Green 255, CH 12 Blue 255, CH 14 White 0, CH 24 Shutter 2 63, CH 25 Dimmer 2 255.

CH	Function	DMX	Description
1	Tilt	0–127	Min … center
		127	Center
		128–255	Center … max
		255	Max
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Speed Pan/Tilt	0	Max
		1–224	Max … min
		225	Min
		226–235	BO by Movement

CH	Function	DMX	Description
3	Speed Pan/Tilt (continued)	236–245	No function
		246–255	Position MSpeed 1
4	Shutter 1	0	Shutter: Closed
		1–62	Shutter: Closed ... Open
		63	Shutter: Open
		64	Min Strobe
		65–94	Min Strobe ... max Strobe
		95	Max Strobe
		96–127	Open 2
		128	Min Pulse
		129–158	Min Pulse ... max Pulse
		159	Max Pulse
		160–191	Open 3
		192	Min Rnd
		193–222	Min Rnd ... maxRnd
		223	maxRnd
		224–255	Open 4
5	Dimmer 1	0	Closed
		1–254	Closed ... Open
		255	Open
6	Dimmer Curve	0–20	Standard
		21–40	Stage
		41–60	TV
		61–80	Architectural
		81–100	Theatre
		101–255	Default
7	Zoom	0	Narrow
		1–127	Narrow ... normal
		128	Normal
		129–254	Normal ... wide
		255	Wide
8	Red	0–255	Min ... Max
		255	Max
9	Red Fine	0–255	Fine adjustment of CH 8
10	Green	0–255	Min ... Max
		255	Max
11	Green Fine	0–255	Fine adjustment of CH 10
12	Blue	0–255	Min ... Max
		255	Max
13	Blue Fine	0–255	Fine adjustment of CH 12
14	White	0–255	Min ... Max
		255	Max

CH	Function	DMX	Description
15	White Fine	0–255	Fine adjustment of CH 14
16	Color Macro	0–7	Normal
		8–39	Red to Yellow
		40–71	Yellow to Green
		72–103	Green to Cyan
		104–135	Cyan to Blue
		136–167	Blue to Magenta
		168–199	Magenta to Red
		200–231	Red to White
		232–255	Cross fading
17	Colors	0–4	No function
		5–9	2700K
		10–14	3200K
		15–19	4300K
		20–24	5600K
		25–29	6500K
		30–34	8000K
		35–39	Red
		40–44	Green
		45–49	Blue
		50–54	Natural White
		55–59	Full White
		60–64	Yellow
		65–69	Magenta
		70–74	Cyan
		75–79	Salmon
		80–84	Turquoise
		85–89	Light Green
		90–94	Steel Blue
		95–99	Orange
		100–104	Straw
		105–109	Pale Lavander
		110–114	Pink
		115–119	Red/White
		120–124	Green/Red
		125–129	Blue/Red
		130–134	White/Red
		135–139	White/Pink
		140–144	White/Turquoise
		145–149	Small Red/White
		150–255	Color 1 1
18	Color Dim	0	Open

CH	Function	DMX	Description
18	Color Dim (continued)	1–254	Open ... Closed
		255	Closed
19	Effects	0–25	Safe
		26–35	Chase 1
		36–45	Chase 2
		46–55	Chase 3
		56–65	Chase 4
		66–75	Chase 5
		76–85	Chase 6
		86–95	Chase 7
		96–105	Chase 8
		106–115	Chase 9
		116–125	Chase 10
		126–135	Chase 11
		136–145	Chase 12
		146–155	Chase 13
		156–165	Chase 14
		166–175	Chase 15
		176–185	Chase 16
		186–195	Chase 17
		196–205	Chase 18
		206–215	Chase 19
		216–225	Chase 20
		226–235	Chase 21
		236–245	Chase 22
		246–255	Chase 23
20	Effects Speed	0	>>>
		1–124	>>
		125	>
		126–130	Stop
		131	<
		132–254	<<
		255	<<<
21	Effects Fade	0	Min
		1–254	Min ... max
		255	Max
22	Color Calibration Mode	0–189	No function
		190–254	Edit a new white balance
		255	Store a new white balance
23	Control	0–39	Normal
		40–42	Display Off
		43–45	Display ON

CH	Function	DMX	Description
23	Control (continued)	46–48	Fan Auto
		49–51	Fan High
		52–54	Fan Silent
		55–57	Fan Studio
		58–60	Fan Mute
		61–63	Gamma=2'0
		64–66	Gamma=2'2
		67–69	Gamma=2'4
		70–72	Gamma=2'6
		73–75	Gamma=2'8
		76–84	Reset All
		85–90	Reset P/T
		91–93	Store white balance enabled
		94–99	Reset Zoom
		100–119	Internal pro 1
		120–139	Internal pro 2
		140–159	Internal pro 3
		160–179	Internal pro 4
		180–199	Internal pro 5
		200–219	Internal pro 6
		220–239	Internal pro 7
		240–255	Internal programs
24	Shutter 2	0	Shutter: Closed
		1–62	Shutter: Closed ... Open
		63	Shutter: Open
		64	Min Strobe
		65–94	Min Strobe ... max Strobe
		95	Max Strobe
		96–127	Open 2
		128	Min Pulse
		129–158	Min Pulse ... max Pulse
		159	Max Pulse
		160–191	Open 3
		192	Min Rnd
		193–222	Min Rnd ... maxRnd
		223	maxRnd
		224–255	Open 4
25	Dimmer 2	0	Closed
		1–254	Closed ... Open
		255	Open

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 4 Shutter 1 at 63 “Open” or 96–127 or 160–191 or 224–255; CH 5 Dimmer 1 above 0; CH 68 Shutter 2 at 63 “Open” or 96–127 or 160–191 or 224–255; CH 69 Dimmer 2 above 0; CH 71 Dimmer above 0 (the same in each of the 64 cells). The GDTF file gives these values for a console's Highlight function: CH 4 Shutter 1 63, CH 5 Dimmer 1 255, CH 20 Red 255 (the same in each of the 12 cells), CH 21 Green 255 (the same in each of the 12 cells), CH 22 Blue 255 (the same in each of the 12 cells), CH 23 White 0 (the same in each of the 12 cells), CH 68 Shutter 2 63, CH 69 Dimmer 2 255, CH 71 Dimmer 255 (the same in each of the 64 cells).

CH	Function	DMX	Description
1	Tilt		Same as CH 1 in the mode “Standard” (p. 9)
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Speed Pan/Tilt		Same as CH 3 in the mode “Standard” (p. 9)
4	Shutter 1		Same as CH 4 in the mode “Standard” (p. 10)
5	Dimmer 1	0–255	Closed ... Open
		255	Open
6	Dimmer 1 Fine	0–255	Fine adjustment of CH 5
7	Dimmer Curve		Same as CH 6 in the mode “Standard” (p. 10)
8	Zoom 1	0–128	Narrow ... normal
		128–255	Normal ... wide
		255	Wide
9	Zoom 1 Fine	0–255	Fine adjustment of CH 8
10	Zoom 2	0–128	Narrow ... normal
		128–255	Normal ... wide
		255	Wide
11	Zoom 2 Fine	0–255	Fine adjustment of CH 10
12	Color Macro		Same as CH 16 in the mode “Standard” (p. 11)
13	Colors		Same as CH 17 in the mode “Standard” (p. 11)
14	Color Dim		Same as CH 18 in the mode “Standard” (p. 11)
15	Effects		Same as CH 19 in the mode “Standard” (p. 12)
16	Effects Speed		Same as CH 20 in the mode “Standard” (p. 12)
17	Effects Fade		Same as CH 21 in the mode “Standard” (p. 12)
18	Color Calibration Mode		Same as CH 22 in the mode “Standard” (p. 12)
19	Control		Same as CH 23 in the mode “Standard” (p. 12)
20	Red 1	0	Min
		1–254	Min ... Max
		255	Max
21	Green 1	0	Min
		1–254	Min ... Max
		255	Max
22	Blue 1	0	Min
		1–254	Min ... Max
		255	Max

CH	Function	DMX	Description
23	White 1	0	Min
		1–254	Min ... Max
		255	Max
68	Shutter 2		Same as CH 24 in the mode “Standard” (p. 13)
69	Dimmer 2	0–255	Closed ... Open
		255	Open
70	Dimmer 2 Fine	0–255	Fine adjustment of CH 69
71	Dimmer 3	0	Closed
		1–254	Closed ... Open
		255	Open

CH 20–67: 12 cells of 4 channels each. Every cell works as cell 1 in the table above (CH 20–23); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	White	Cell	Red	Green	Blue	White
1	20	21	22	23	2	24	25	26	27
3	28	29	30	31	4	32	33	34	35
5	36	37	38	39	6	40	41	42	43
7	44	45	46	47	8	48	49	50	51
9	52	53	54	55	10	56	57	58	59
11	60	61	62	63	12	64	65	66	67

CH 71–134: 64 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 71); the table below gives each cell's channel numbers.

Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	71	2	72	3	73	4	74	5	75	6	76
7	77	8	78	9	79	10	80	11	81	12	82
13	83	14	84	15	85	16	86	17	87	18	88
19	89	20	90	21	91	22	92	23	93	24	94
25	95	26	96	27	97	28	98	29	99	30	100
31	101	32	102	33	103	34	104	35	105	36	106
37	107	38	108	39	109	40	110	41	111	42	112
43	113	44	114	45	115	46	116	47	117	48	118
49	119	50	120	51	121	52	122	53	123	54	124
55	125	56	126	57	127	58	128	59	129	60	130
61	131	62	132	63	133	64	134				

Mode RGBW Pixel

The GDTF file gives these values for a console's Highlight function: CH 1 Red 255, CH 2 Green 255, CH 3 Blue 255, CH 4 White 0.

CH	Function	DMX	Description
1	Red	0	Min
		1–254	Min ... Max
		255	Max

CH	Function	DMX	Description
2	Green	0	Min
		1–254	Min ... Max
		255	Max
3	Blue	0	Min
		1–254	Min ... Max
		255	Max
4	White	0	Min
		1–254	Min ... Max
		255	Max

Mode Strobe Pixel

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255.

CH	Function	DMX	Description
1	Dimmer	0	Closed
		1–254	Closed ... Open
		255	Open

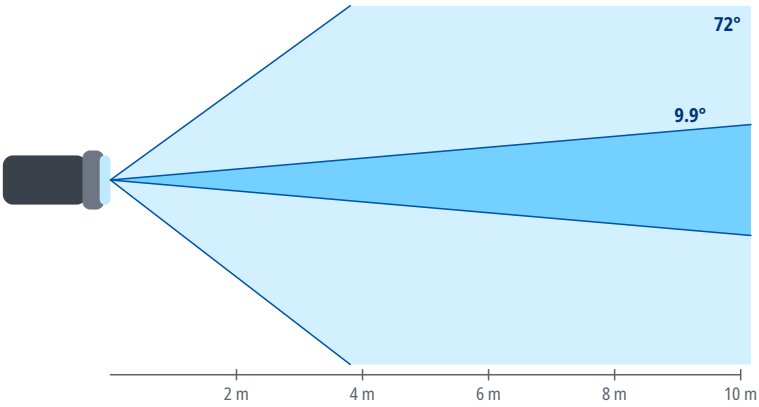
10 Technical specifications

Parameter	Value
Light source	LED
Zoom	9.9–72°
Tilt	192°
RDM	yes (manufacturer ID 0x4753, device model ID 0x070C)
Weight	33 kg
Operating temperature	-20 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–25 Hz

Spot diameter



Distance	Ø 9.9°	Ø 72°
2 m	0.35 m	2.9 m
4 m	0.69 m	5.8 m
6 m	1 m	8.7 m
8 m	1.4 m	11.6 m
10 m	1.7 m	14.5 m
15 m	2.6 m	21.8 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.