DMX REFERENCE

SCORPIO700

ZZIPP

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GDTF file	ZZIPP_SCORPIO700_94321.gdtf
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Contents

1 About this manual 2
2 Quick reference 3
3 Safety instructions 4
4 Installation 5
5 Connections 5
6 Operation 6
7 Functions at a glance 6
8 DMX channels 7
Mode 127 Ch 8
Mode 112 Ch 9
Mode 64 Ch 10
Mode 43 Ch 11
Mode 38 Ch 12
Mode 32 Ch 13
Mode 18 Ch 14
Mode 16Ch 15
Mode 13Ch 16
Mode 9Ch 16
Mode 6Ch 17
9 Technical specifications 18
10 Maintenance and cleaning 18
11 Troubleshooting 19
12 Disposal 19

1 About this manual

This document describes the Scorpio700 by ZZIPP. It was compiled from the GDTF file ZZIPP_SCORPIO700_94321.gdtf from the GDTF-Share library.

File revision: “Created by ZZIPP, Uploaded to GDTF Share.”.

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 ZZIPP; 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
127 Ch	127	4	1, 128, 255, 382
112 Ch	112	4	1, 113, 225, 337
64 Ch	64	8	1, 65, 129, 193, ...
43 Ch	43	11	1, 44, 87, 130, ...
38 Ch	38	13	1, 39, 77, 115, ...
32 Ch	32	16	1, 33, 65, 97, ...
18 Ch	18	28	1, 19, 37, 55, ...
16Ch	16	32	1, 17, 33, 49, ...
13Ch	13	39	1, 14, 27, 40, ...
9Ch	9	56	1, 10, 19, 28, ...
6Ch	6	85	1, 7, 13, 19, ...



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.

4 Installation

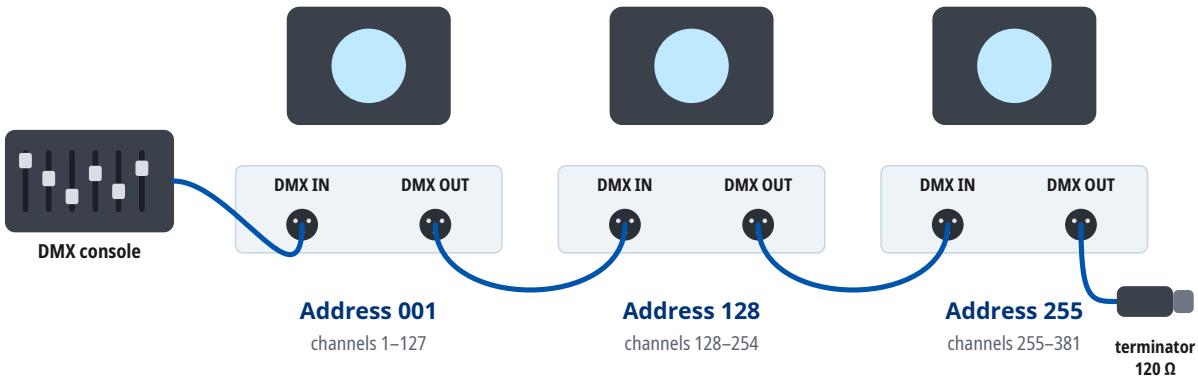
⚠ WARNING

- 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.

5 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 127 Ch: every unit occupies 127 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.

6 Operation

Setting the DMX address

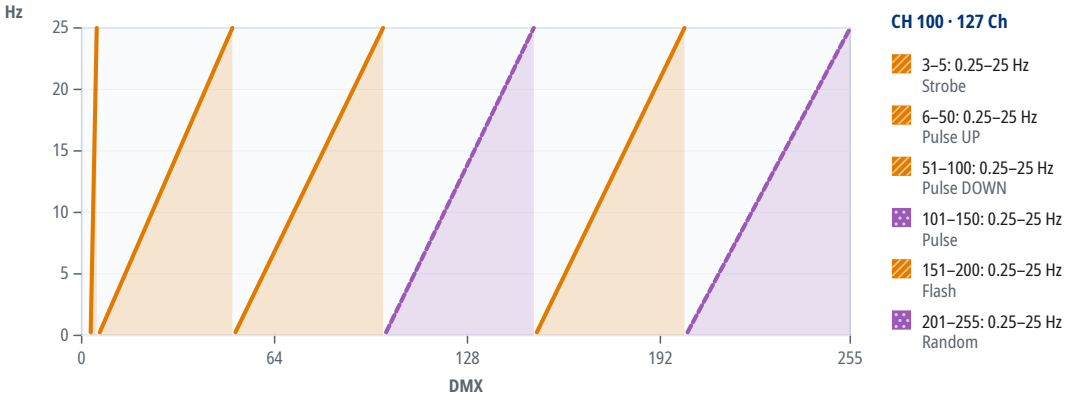
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “127 Ch”: 127.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “127 Ch”, you can use, for example, the start addresses 1, 128, 255, 382.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

7 Functions at a glance

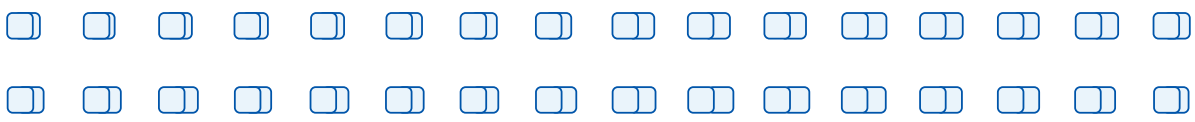
Functions in each DMX mode

	127 Ch 127 channels	112 Ch 112 channels	64 Ch 64 channels	43 Ch 43 channels	38 Ch 38 channels	32 Ch 32 channels	18 Ch 18 channels	16Ch 16 channels
Dimmer	49–64, 97–121	49–64, 97–120	49–64, 97–120	**26, 30–37**	**25, 30–36**	**25–32**	**5, 12**	**13–16**
Dimmer resolution	16 bit	8 bit	8 bit	16 bit	16 bit	8 bit	16 bit	8 bit
Shutter / strobe	100–102, 123–125			**28–30, 39–41**	**27–29, 36–38**		**7–9, 14–16**	
Color mixing	**1–96**	**1–96**	**1–48**	**1–24**	**1–24**	**1–24**	**1–3**	**1–12**
Effects / macros	**97, 103, 126**			**25, 31, 42**			**4, 10, 17**	
Pixel control	**32 + 16 cells**	**32 + 16 cells**	**16 + 16 cells**	**8 cells**	**8 cells**	**8 + 8 cells**		✓

Strobe rate



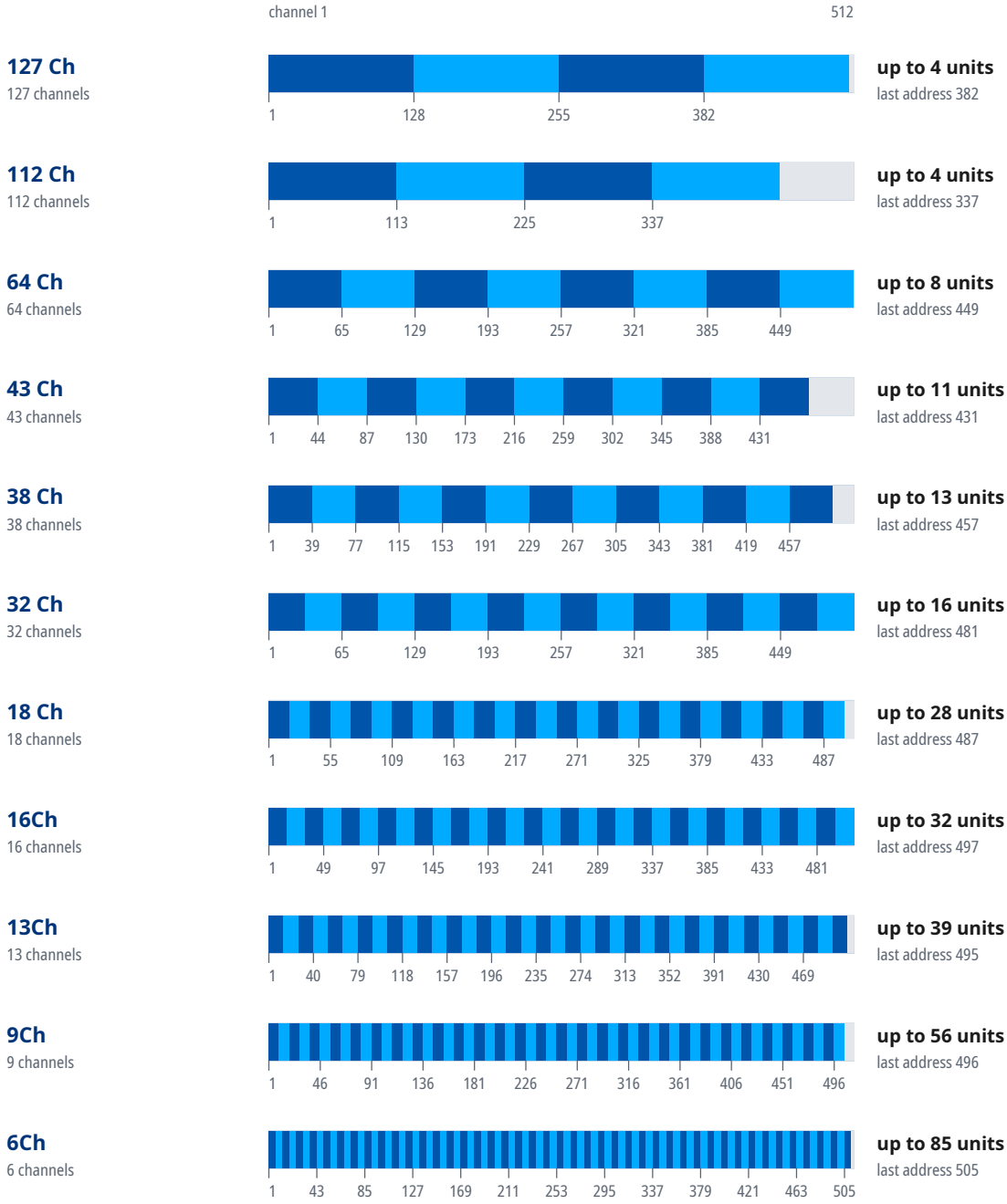
Cells (pixels)



Cells where the GDTF file places them (seen from above), 64 in all in the mode “127 Ch”.

8 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “127 Ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	U2 · 128	11	U3 · 255	16	U4 · 382
2	128	7	U2 · 255	12	U3 · 382	17	U5 · 1
3	255	8	U2 · 382	13	U4 · 1	18	U5 · 128
4	382	9	U3 · 1	14	U4 · 128	19	U5 · 255
5	U2 · 1	10	U3 · 128	15	U4 · 255	20	U5 · 382

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 127 Ch

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 98 Dimmer 1 above 0; CH 100 Shutter 1 at 0–2 “Open”; CH 105 Dimmer above 0 (the same in each of the 16 cells); CH 121 Dimmer 18 above 0; CH 123 Shutter 2 at 0–2 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 32 cells), CH 2 Green 255 (the same in each of the 32 cells), CH 3 Blue 255 (the same in each of the 32 cells), CH 98 Dimmer 1 255.

CH	Function	DMX	Description
1	Red 1		Color RGB_R 1
		0–255	Color RGB_R 1
2	Green 1		Color RGB_G 1
		0–255	Color RGB_G 1
3	Blue 1		Color RGB_B 1
		0–255	Color RGB_B 1
97	Colors Macro 1	0–255	
98	Dimmer 1	0–255	
99	Dimmer 1 Fine	0–255	Fine adjustment of CH 98
100	Shutter 1	0–2	Shutter 1: Open
		3–5	Strobe (0.25–25 Hz)
		6–50	Pulse UP (0.25–25 Hz)
		51–100	Pulse DOWN (0.25–25 Hz)
		101–150	Pulse (0.25–25 Hz)
		151–200	Flash (0.25–25 Hz)
		201–255	Random (0.25–25 Hz)
101	Strobe Speed 1	0–255	
102	Strobe Duration 1	0–255	
103	Color Macro 2	0–255	
104	Macro Speed 1	0–255	
105	Dimmer 2	0–255	
121	Dimmer 18	0–255	
122	Dimmer 18 Fine	0–255	Fine adjustment of CH 121
123	Shutter 2	0–2	Shutter 1: Open
		3–5	Strobe (0.25–25 Hz)
		6–50	Pulse UP (0.25–25 Hz)
		51–100	Pulse DOWN (0.25–25 Hz)
		101–150	Pulse (0.25–25 Hz)
		151–200	Flash (0.25–25 Hz)
		201–255	Random (0.25–25 Hz)
124	Strobe Speed 2	0–255	

CH	Function	DMX	Description
125	Strobe Duration 2	0–255	
126	Colors Macro 2	0–255	
127	Macro Speed 2	0–255	

CH 1–96: 32 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	1	2	3	2	4	5	6	3	7	8	9
4	10	11	12	5	13	14	15	6	16	17	18
7	19	20	21	8	22	23	24	9	25	26	27
10	28	29	30	11	31	32	33	12	34	35	36
13	37	38	39	14	40	41	42	15	43	44	45
16	46	47	48	17	49	50	51	18	52	53	54
19	55	56	57	20	58	59	60	21	61	62	63
22	64	65	66	23	67	68	69	24	70	71	72
25	73	74	75	26	76	77	78	27	79	80	81
28	82	83	84	29	85	86	87	30	88	89	90
31	91	92	93	32	94	95	96				

CH 105–120: 16 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 105); the table below gives each cell's channel numbers.

Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	105	2	106	3	107	4	108	5	109	6	110
7	111	8	112	9	113	10	114	11	115	12	116
13	117	14	118	15	119	16	120				

Mode 112 Ch

If the device receives DMX in this mode but gives no light, check these channels: CH 97 Dimmer above 0 (the same in each of the 16 cells). The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 32 cells), CH 2 Green 255 (the same in each of the 32 cells), CH 3 Blue 255 (the same in each of the 32 cells).

CH	Function	DMX	Description
1	Red 1		Color RGB_R 1
		0–255	Color RGB_R 1
2	Green 1		Color RGB_G 1
		0–255	Color RGB_G 1
3	Blue 1		Color RGB_B 1
		0–255	Color RGB_B 1
97	Dimmer 1	0–255	

CH 1–96: 32 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	1	2	3	2	4	5	6	3	7	8	9
4	10	11	12	5	13	14	15	6	16	17	18
7	19	20	21	8	22	23	24	9	25	26	27
10	28	29	30	11	31	32	33	12	34	35	36
13	37	38	39	14	40	41	42	15	43	44	45
16	46	47	48	17	49	50	51	18	52	53	54
19	55	56	57	20	58	59	60	21	61	62	63
22	64	65	66	23	67	68	69	24	70	71	72
25	73	74	75	26	76	77	78	27	79	80	81
28	82	83	84	29	85	86	87	30	88	89	90
31	91	92	93	32	94	95	96				

CH 97–112: 16 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 97); the table below gives each cell's channel numbers.

Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	97	2	98	3	99	4	100	5	101	6	102
7	103	8	104	9	105	10	106	11	107	12	108
13	109	14	110	15	111	16	112				

Mode 64 Ch

If the device receives DMX in this mode but gives no light, check these channels: CH 49 Dimmer above 0 (the same in each of the 16 cells). The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 16 cells), CH 2 Green 255 (the same in each of the 16 cells), CH 3 Blue 255 (the same in each of the 16 cells).

CH	Function	DMX	Description
1	Red 1		Color RGB_R 1
		0–255	Color RGB_R 1
2	Green 1		Color RGB_G 1
		0–255	Color RGB_G 1
3	Blue 1		Color RGB_B 1
		0–255	Color RGB_B 1
49	Dimmer 1	0–255	

CH 1–48: 16 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	1	2	3	2	4	5	6	3	7	8	9
4	10	11	12	5	13	14	15	6	16	17	18
7	19	20	21	8	22	23	24	9	25	26	27
10	28	29	30	11	31	32	33	12	34	35	36
13	37	38	39	14	40	41	42	15	43	44	45
16	46	47	48								

CH 49–64: 16 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 49); the table below gives each cell's channel numbers.

Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	49	2	50	3	51	4	52	5	53	6	54
7	55	8	56	9	57	10	58	11	59	12	60
13	61	14	62	15	63	16	64				

Mode 43 Ch

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 26 Dimmer 1 above 0; CH 28 Shutter 1 at 0–2 “Open”; CH 33 Dimmer 2 above 0; CH 34 Dimmer 3 above 0; CH 35 Dimmer 4 above 0; CH 36 Dimmer 5 above 0; CH 37 Dimmer 6 above 0; CH 39 Shutter 2 at 0–2 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 8 cells), CH 2 Green 255 (the same in each of the 8 cells), CH 3 Blue 255 (the same in each of the 8 cells).

CH	Function	DMX	Description
1	Red 1		Color RGB_R 1
		0–255	Color RGB_R 1
2	Green 1		Color RGB_G 1
		0–255	Color RGB_G 1
3	Blue 1		Color RGB_B 1
		0–255	Color RGB_B 1
25	Colors Macro 1	0–255	
26	Dimmer 1	0–255	
27	Dimmer 1 Fine	0–255	Fine adjustment of CH 26
28	Shutter 1	0–2	Shutter 1: Open
		3–5	Shutter 1 Strobe 2 (0.25–25 Hz)
		6–50	Shutter 1 Strobe Pulse Close 3 (0.25–25 Hz)
		51–100	Shutter 1 Strobe Pulse Open 4 (0.25–25 Hz)
		101–150	Shutter 1 Strobe Pulse 5 (0.25–25 Hz)
		151–200	Shutter 1 Strobe Random Pulse 6 (0.25–25 Hz)
		201–255	Shutter 1 Strobe Random 7 (0.25–25 Hz)
29	Strobe Speed 1	0–255	0.25–25 Hz
30	Strobe Duration 1	0–255	

CH	Function	DMX	Description
31	Color Macro 2	0–255	
32	Macro Speed 1	0–255	
33	Dimmer 2	0–255	
34	Dimmer 3	0–255	
35	Dimmer 4	0–255	
36	Dimmer 5	0–255	
37	Dimmer 6	0–255	
38	Dimmer 6 Fine	0–255	Fine adjustment of CH 37
39	Shutter 2	0–2	Shutter 1: Open
		3–5	Shutter 1 Strobe 2 (0.25–25 Hz)
		6–50	Shutter 1 Strobe Pulse Close 3 (0.25–25 Hz)
		51–100	Shutter 1 Strobe Pulse Open 4 (0.25–25 Hz)
		101–150	Shutter 1 Strobe Pulse 5 (0.25–25 Hz)
		151–200	Shutter 1 Strobe Random Pulse 6 (0.25–25 Hz)
		201–255	Shutter 1 Strobe Random 7 (0.25–25 Hz)
40	Strobe Speed 2	0–255	0.25–25 Hz
41	Strobe Duration 2	0–255	
42	Colors Macro 2	0–255	
43	Macro Speed 2	0–255	

CH 1–24: 8 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	1	2	3	2	4	5	6	3	7	8	9
4	10	11	12	5	13	14	15	6	16	17	18
7	19	20	21	8	22	23	24				

Mode 38 Ch

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 25 Dimmer 1 above 0; CH 27 Shutter 1 at 0–2 “Open”; CH 30 Dimmer 2 above 0; CH 31 Dimmer 3 above 0; CH 32 Dimmer 4 above 0; CH 33 Dimmer 5 above 0; CH 34 Dimmer 6 above 0; CH 36 Shutter 2 at 0–2 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 8 cells), CH 2 Green 255 (the same in each of the 8 cells), CH 3 Blue 255 (the same in each of the 8 cells), CH 25 Dimmer 1 255.

CH	Function	DMX	Description
1	Red 1		Color RGB_R 1
		0–255	Color RGB_R 1
2	Green 1		Color RGB_G 1
		0–255	Color RGB_G 1
3	Blue 1		Color RGB_B 1
		0–255	Color RGB_B 1
25	Dimmer 1	0–255	

CH	Function	DMX	Description
26	Dimmer 1 Fine	0–255	Fine adjustment of CH 25
27	Shutter 1	0–2	Shutter 1: Open
		3–5	Shutter 1 Strobe 2 (0.25–25 Hz)
		6–50	Shutter 1 Strobe Pulse Open 3 (0.25–25 Hz)
		51–100	Shutter 1 Strobe Pulse Close 4 (0.25–25 Hz)
		101–150	Shutter 1 Strobe Pulse 5 (0.25–25 Hz)
		151–200	Shutter 1 Strobe Random 6 (0.25–25 Hz)
		201–255	Shutter 1 Strobe Random Pulse 7 (0.25–25 Hz)
28	Strobe Speed 1	0–255	
29	Strobe Duration 1	0–255	
30	Dimmer 2	0–255	
31	Dimmer 3	0–255	
32	Dimmer 4	0–255	
33	Dimmer 5	0–255	
34	Dimmer 6	0–255	
35	Dimmer 6 Fine	0–255	Fine adjustment of CH 34
36	Shutter 2		Same as CH 39 in the mode “43 Ch” (p. 12)
37	Strobe Speed 2	0–255	
38	Strobe Duration 2	0–255	

CH 1–24: 8 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	1	2	3	2	4	5	6	3	7	8	9
4	10	11	12	5	13	14	15	6	16	17	18
7	19	20	21	8	22	23	24				

Mode 32 Ch

If the device receives DMX in this mode but gives no light, check these channels: CH 25 Dimmer above 0 (the same in each of the 8 cells). The GDTF file gives these values for a console's Highlight function: CH 1 Red 255 (the same in each of the 8 cells), CH 2 Green 255 (the same in each of the 8 cells), CH 3 Blue 255 (the same in each of the 8 cells).

CH	Function	DMX	Description
1	Red 1		Color RGB_R 1
		0–255	Color RGB_R 1
2	Green 1		Color RGB_G 1
		0–255	Color RGB_G 1
3	Blue 1		Color RGB_B 1
		0–255	Color RGB_B 1
25	Dimmer 1	0–255	

CH 1–24: 8 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 1–3); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	1	2	3	2	4	5	6	3	7	8	9
4	10	11	12	5	13	14	15	6	16	17	18
7	19	20	21	8	22	23	24				

CH 25–32: 8 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 25); the table below gives each cell's channel numbers.

Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer	Cell	Dimmer
1	25	2	26	3	27	4	28	5	29	6	30
7	31	8	32								

Mode 18 Ch

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 5 Dimmer 1 above 0; CH 7 Shutter 1 at 0–2 “Open”; CH 12 Dimmer 2 above 0; CH 14 Shutter 2 at 0–2 “Open”. 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 Colors Macro 1 255, CH 5 Dimmer 1 255.

CH	Function	DMX	Description
1	Red		Color RGB_R 1
		0–255	Color RGB_R 1
2	Green		Color RGB_G 1
		0–255	Color RGB_G 1
3	Blue		Color RGB_B 1
		0–255	Color RGB_B 1
4	Colors Macro 1	0–255	
5	Dimmer 1	0–255	
6	Dimmer 1 Fine	0–255	Fine adjustment of CH 5
7	Shutter 1		Same as CH 28 in the mode “43 Ch” (p. 11)
8	Strobe Speed 1	0–255	
9	Strobe Duration 1	0–255	
10	Colors Macro 2	0–255	
11	Macro Speed 1	0–255	
12	Dimmer 2	0–255	
13	Dimmer 2 Fine	0–255	Fine adjustment of CH 12
14	Shutter 2		Same as CH 39 in the mode “43 Ch” (p. 12)
15	Strobe Speed 2	0–255	
16	Strobe Duration 2	0–255	
17	Color Macro 2	0–255	
18	Macro Speed 2	0–255	

Mode 16Ch

If the device receives DMX in this mode but gives no light, check these channels: CH 13 Dimmer 1 above 0; CH 14 Dimmer 2 above 0; CH 15 Dimmer 3 above 0; CH 16 Dimmer 4 above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Red 1 255, CH 2 Green 1 255, CH 3 Blue 1 255, CH 4 Red 2 255, CH 5 Green 2 255, CH 6 Blue 2 255, CH 7 Red 3 255, CH 8 Green 3 255, CH 9 Blue 3 255, CH 10 Red 4 255, CH 11 Green 4 255, CH 12 Blue 4 255.

CH	Function	DMX	Description
1	Red 1		Color RGB_R 1
		0–255	Color RGB_R 1
2	Green 1		Color RGB_G 1
		0–255	Color RGB_G 1
3	Blue 1		Color RGB_B 1
		0–255	Color RGB_B 1
4	Red 2		Color RGB_R 1
		0–255	Color RGB_R 1
5	Green 2		Color RGB_G 1
		0–255	Color RGB_G 1
6	Blue 2		Color RGB_B 1
		0–255	Color RGB_B 1
7	Red 3		Color RGB_R 1
		0–255	Color RGB_R 1
8	Green 3		Color RGB_G 1
		0–255	Color RGB_G 1
9	Blue 3		Color RGB_B 1
		0–255	Color RGB_B 1
10	Red 4		Color RGB_R 1
		0–255	Color RGB_R 1
11	Green 4		Color RGB_G 1
		0–255	Color RGB_G 1
12	Blue 4		Color RGB_B 1
		0–255	Color RGB_B 1
13	Dimmer 1	0–255	
14	Dimmer 2	0–255	
15	Dimmer 3	0–255	
16	Dimmer 4	0–255	

Mode 13Ch

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 Dimmer 1 above 0; CH 6 Dimmer 2 above 0; CH 8 Shutter at 0–2 “Open”. 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	Function	DMX	Description
1	Red		Same as CH 1 in the mode “18 Ch” (p. 14)
2	Green		Same as CH 2 in the mode “18 Ch” (p. 14)
3	Blue		Same as CH 3 in the mode “18 Ch” (p. 14)
4	Dimmer 1	0–255	
5	Color Macro 2	0–255	
6	Dimmer 2	0–255	
7	Dimmer 2 Fine	0–255	Fine adjustment of CH 6
8	Shutter	0–2	Shutter 1: Open
		3–5	Shutter 1 Strobe 2
		6–50	Shutter 1 Strobe Pulse Close 3 (0.25–25 Hz)
		51–100	Shutter 1 Strobe Pulse Open 4 (0.25–25 Hz)
		101–150	Shutter 1 Strobe Pulse 5 (0.25–25 Hz)
		151–200	Shutter 1 Strobe Random Pulse 6 (0.25–25 Hz)
		201–255	Shutter 1 Strobe Random 7 (0.25–25 Hz)
9	Strobe Speed	0–255	
10	Strobe Duration	0–255	
11	Colors Macro	0–255	
12	Color Macro	0–255	
13	Macro Speed	0–255	

Mode 9Ch

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 Dimmer 1 above 0; CH 5 Dimmer 2 above 0; CH 7 Shutter at 0–2 “Open”. 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	Function	DMX	Description
1	Red		Same as CH 1 in the mode “18 Ch” (p. 14)
2	Green		Same as CH 2 in the mode “18 Ch” (p. 14)
3	Blue		Same as CH 3 in the mode “18 Ch” (p. 14)
4	Dimmer 1	0–255	
5	Dimmer 2	0–255	
6	Dimmer 2 Fine	0–255	Fine adjustment of CH 5
7	Shutter	0–2	Shutter 1: Open
		3–5	Shutter 1 Strobe 2 (0.25–25 Hz)
		6–50	Shutter 1 Strobe Pulse Close 3 (0.25–25 Hz)
		51–100	Shutter 1 Strobe Pulse Open 4 (0.25–25 Hz)
		101–150	Shutter 1 Strobe Pulse 5 (0.25–25 Hz)

CH	Function	DMX	Description
7	Shutter (continued)	151–200	Shutter 1 Strobe Random Pulse 6 (0.25–25 Hz)
		201–255	Shutter 1 Strobe Random 7 (0.25–25 Hz)
8	Strobe Speed	0–255	
9	Strobe Duration	0–255	

Mode 6Ch

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 Dimmer 1 above 0; CH 5 Dimmer 2 above 0. 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	Function	DMX	Description
1	Red		Same as CH 1 in the mode “18 Ch” (p. 14)
2	Green		Same as CH 2 in the mode “18 Ch” (p. 14)
3	Blue		Same as CH 3 in the mode “18 Ch” (p. 14)
4	Dimmer 1	0–255	
5	Dimmer 2	0–255	
6	Dimmer 2 Fine	0–255	Fine adjustment of CH 5

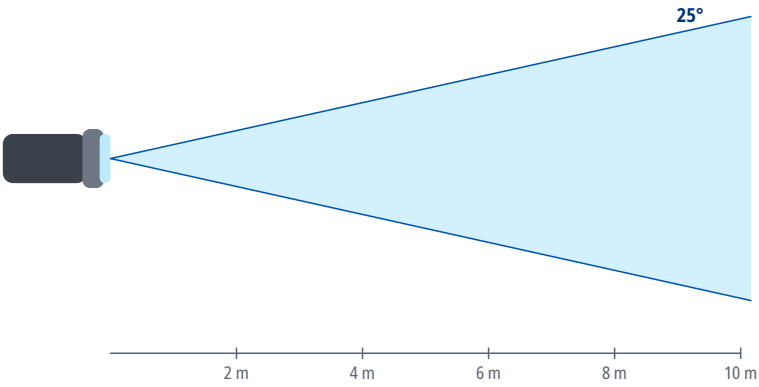
9 Technical specifications

Parameter	Value
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0.25–25 Hz

Spot diameter



Distance	Ø 25°
2 m	0.89 m
4 m	1.8 m
6 m	2.7 m
8 m	3.5 m
10 m	4.4 m
15 m	6.7 m

Spot diameter square to the beam axis, calculated from the beam angle.

10 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.

11 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.

12 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.