DMX REFERENCE

ParKolor 120HD

Starway



Manufacturer	Starway
GDTF file	Starway_ParKolor_120HD_80331.gdtf
GDTF revision	V1-00 · 2024-12-06
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1 About this manual

This document describes the ParKolor 120HD by Starway. It was compiled from the GDTF file Starway_ParKolor_120HD_80331.gdtf from the GDTF-Share library.

File revision: “V1-00”.

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 Starway; 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	7.2 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Enh16Bit 15CH	15	34	1, 16, 31, 46, ...
Enh8Bit 10CH	10	51	1, 11, 21, 31, ...
RGBW 7CH	7	73	1, 8, 15, 22, ...
HSI 6CH	6	85	1, 7, 13, 19, ...
RGBW 6CH	6	85	1, 7, 13, 19, ...

No light? Check these channels

- Enh16Bit 15CH: CH 1 Dimmer above 0
- Enh8Bit 10CH: CH 1 Dimmer above 0
- RGBW 7CH: CH 1 Dimmer above 0
- HSI 6CH: CH 3 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.

4 Installation

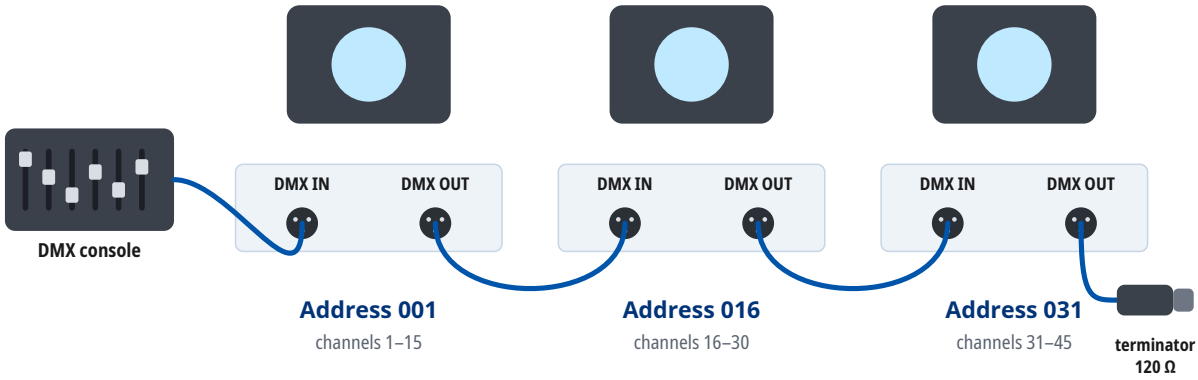
⚠ **WARNING**

- 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.
- Weight of the device: 7.2 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.

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 Enh16Bit 15CH: every unit occupies 15 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 “Enh16Bit 15CH”: 15.
- 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 “Enh16Bit 15CH”, you can use, for example, the start addresses 1, 16, 31, 46.
- 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

	Enh16Bit 15CH 15 channels	Enh8Bit 10CH 10 channels	RGBW 7CH 7 channels	HSI 6CH 6 channels	RGBW 6CH 6 channels
Pan / Tilt	✓	✓	✓	✓	✓
Dimmer	1	1	1	3	✓
Dimmer resolution	16 bit	8 bit	8 bit	8 bit	
Shutter / strobe	3	2	2		
Color mixing	4× (5–11)	4–7	3–6		1–4
Color wheel	13	8			
Zoom	4	3	7	4	
Effects / macros				5	5

Color wheel

1 Full power RGBL **DMX 0**

2 10000K **DMX 1**

3 8000K **DMX 2**

4 6500K **DMX 3**

5 5600K **DMX 4**

6 5000K **DMX 5**

7 4500K **DMX 6**

8 4000K **DMX 7**

9 3200K **DMX 8**

10 3000K **DMX 9**

11 2700K **DMX 10**

12 Color 1 **DMX 11**

13 Color2...238 **DMX 12**

14 Color3 **DMX 13**

15 Color4 **DMX 14**

16 Color5 **DMX 15**

17 Color6 **DMX 16**

18 Color7 **DMX 17**

19 Color8 **DMX 18**

20 Color9 **DMX 19**

21 Color10 **DMX 20**

22 Color11 **DMX 21**

23 Color12 **DMX 22**

24 Color13 **DMX 23**

25 Color14 **DMX 24**

26 Color15 **DMX 25**

27 Color16 **DMX 26**

28 Color17 **DMX 27**

29 Color18 **DMX 28**

30 Color19 **DMX 30**

31 Color20 **DMX 31**

32 Color21 **DMX 32**

33 Color22 **DMX 33**

34 Color23 **DMX 34**

35 Color24 **DMX 35**

36 Color25 **DMX 36**

37 Color26 **DMX 38**

38 Color27 **DMX 39**

39 Color28 **DMX 40**

40 Color29 **DMX 41**

41 Color30 **DMX 42**

42 Color31 **DMX 43**

43 Color32 **DMX 44**

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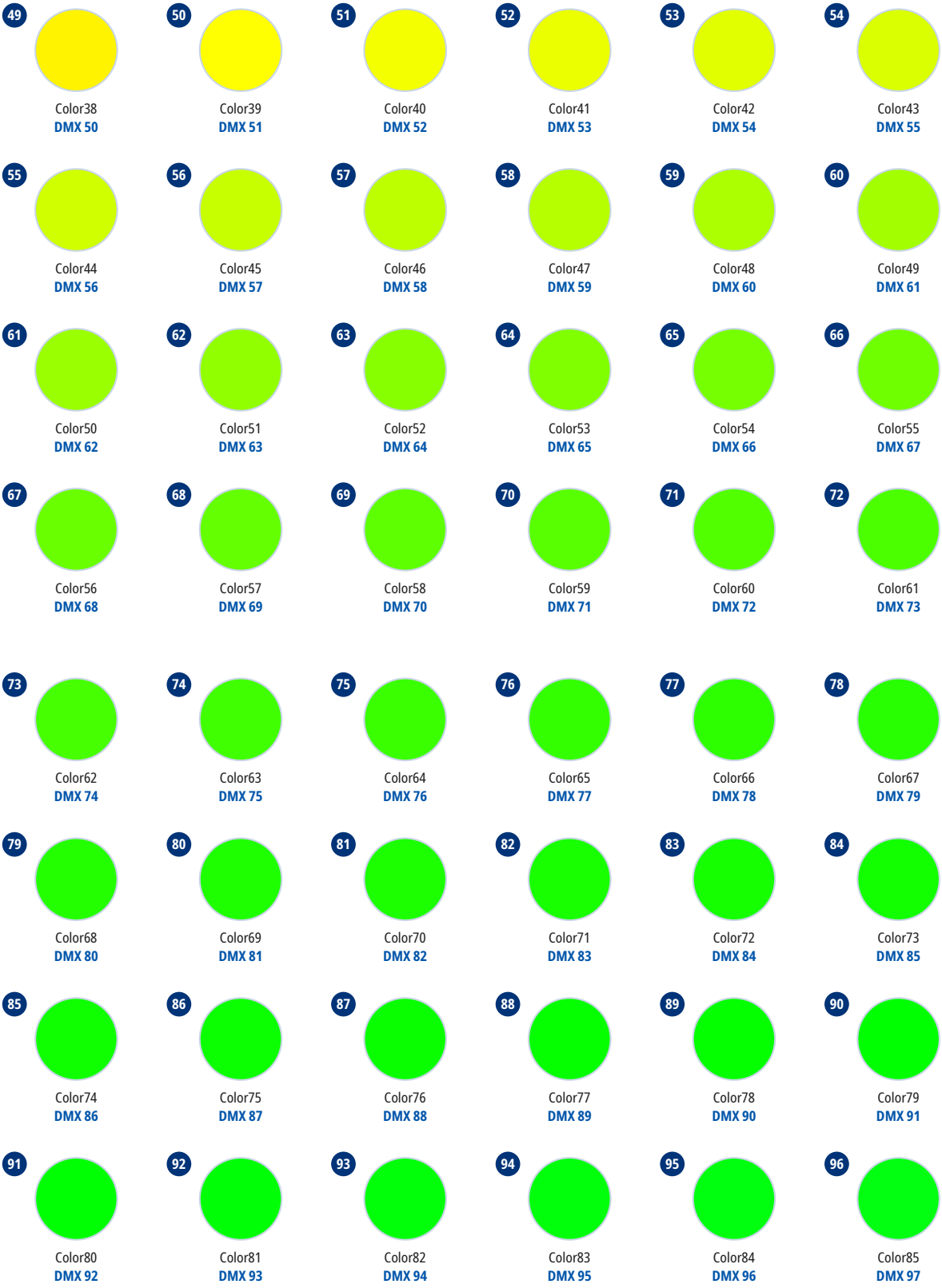
45 Color34 **DMX 46**

46 Color35 **DMX 47**

47 Color36 **DMX 48**

48 Color37 **DMX 49**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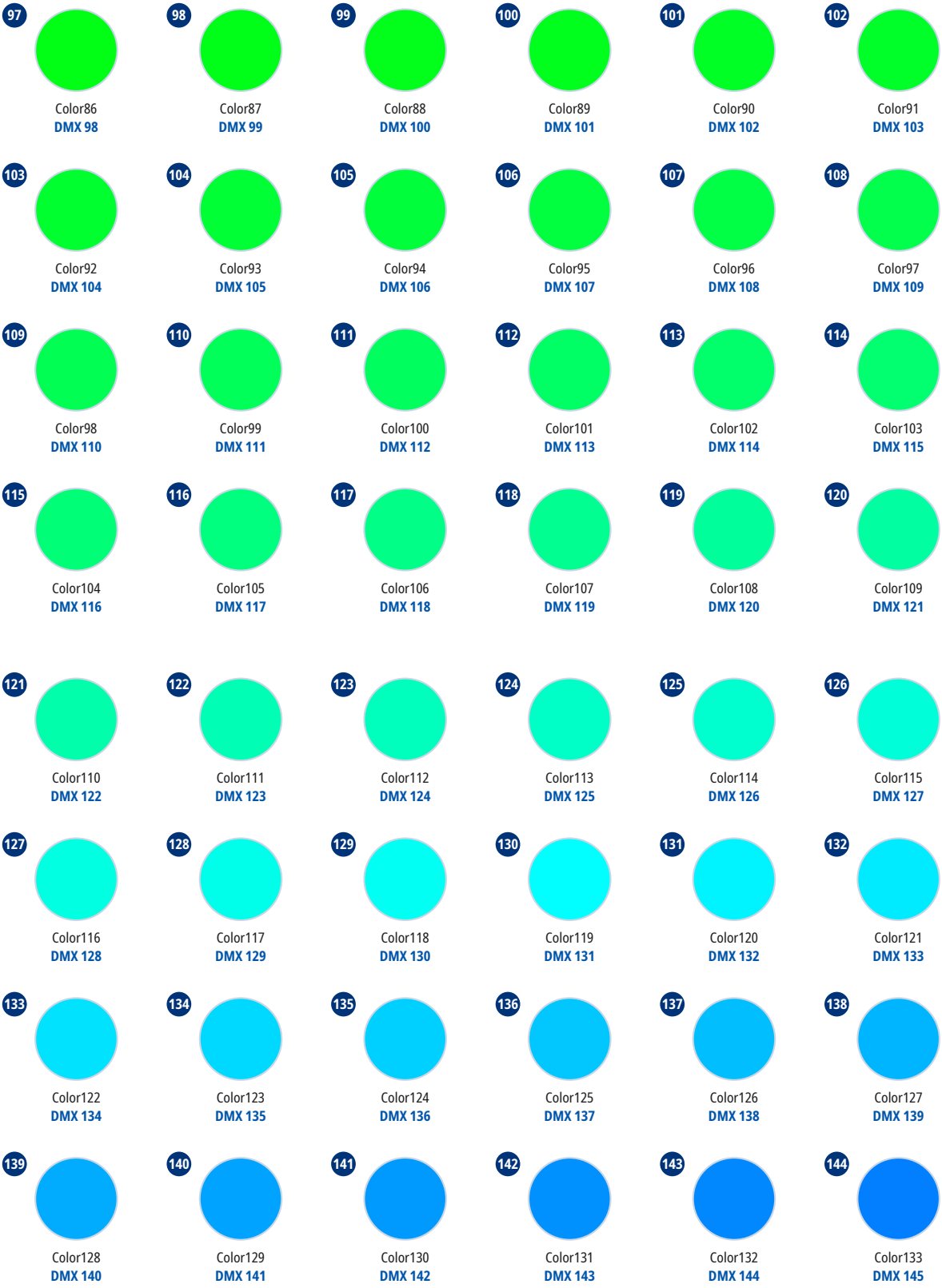
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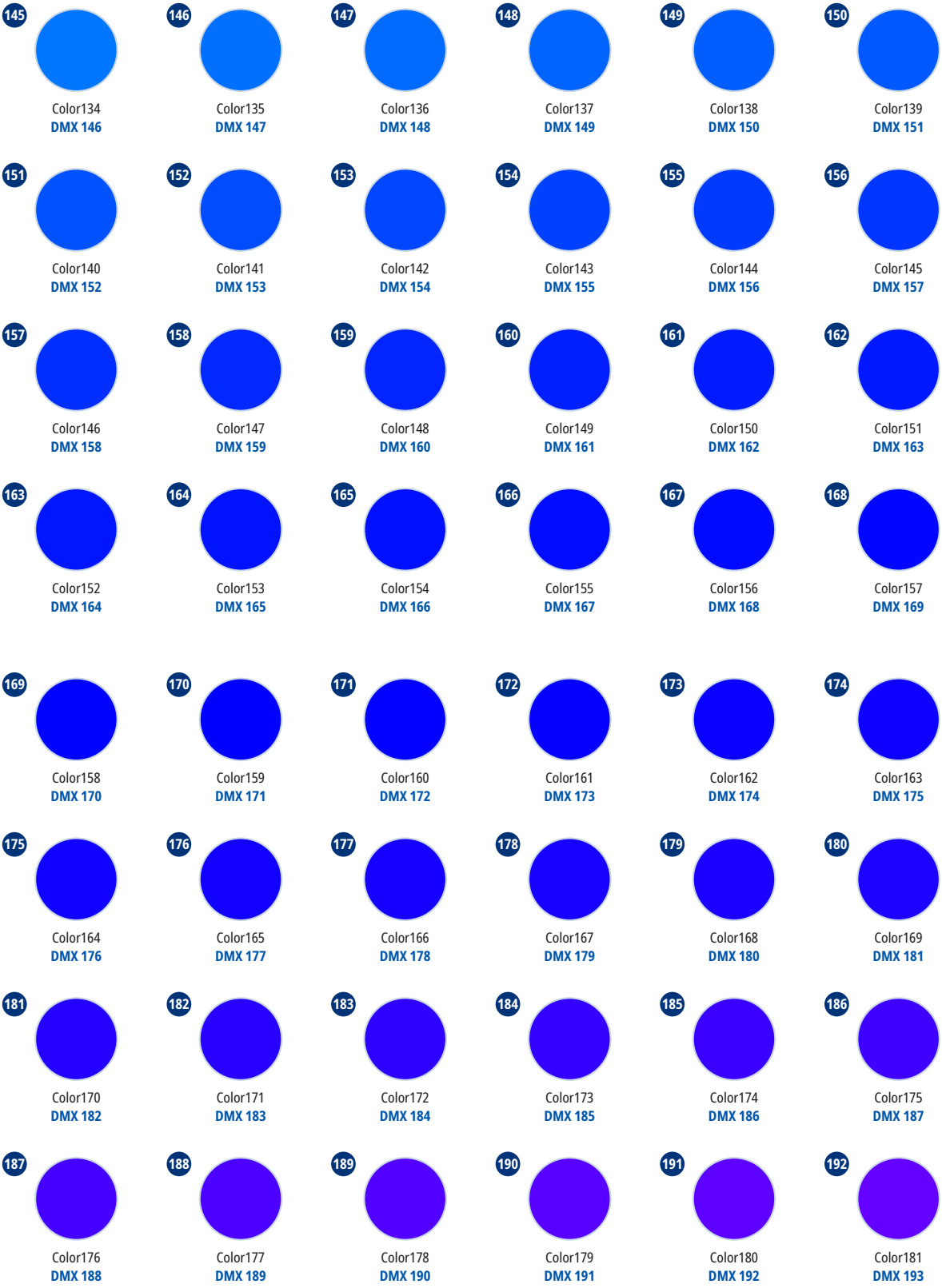
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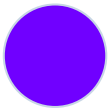
193  Color182 **DMX 194**

194  Color183 **DMX 195**

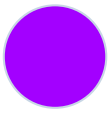
195  Color184 **DMX 196**

196  Color185 **DMX 197**

197  Color186 **DMX 198**

198  Color187 **DMX 199**

199  Color188 **DMX 200**

200  Color189 **DMX 201**

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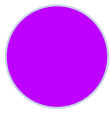
202  Color191 **DMX 203**

203  Color192 **DMX 204**

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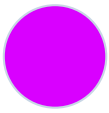
205  Color194 **DMX 206**

206  Color195 **DMX 207**

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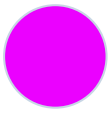
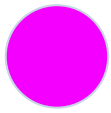
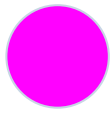
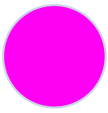
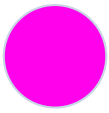
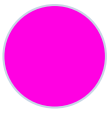
208  Color197 **DMX 209**

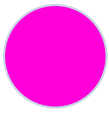
209  Color199 **DMX 210**

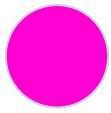
210  Color200 **DMX 211**

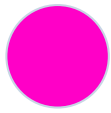
211  Color201 **DMX 212**

212  Color202 **DMX 213**

213  Color203 **DMX 214**

214  Color204 **DMX 215**

215  Color205 **DMX 216**

216  Color206 **DMX 217**

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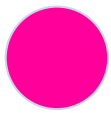
218  Color208 **DMX 219**

219  Color209 **DMX 220**

220  Color210 **DMX 221**

221  Color211 **DMX 222**

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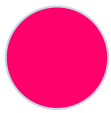
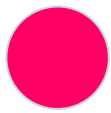
223  Color213 **DMX 224**

224  Color214 **DMX 225**

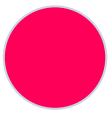
225  Color215 **DMX 226**

226  Color216 **DMX 227**

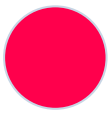
227  Color217 **DMX 228**

228  Color218 **DMX 229**

229  Color219 **DMX 230**

230  Color220 **DMX 231**

231  Color221 **DMX 232**

232  Color222 **DMX 233**

233 Color223 **DMX 234**

234 Color224 **DMX 235**

235 Color225 **DMX 236**

236 Color226 **DMX 237**

237 Color227 **DMX 238**

238 Color228 **DMX 239**

239 Color229 **DMX 240**

240 Color230 **DMX 241**

241 Color231 **DMX 242**

242 Color232 **DMX 243**

243 Color233 **DMX 244**

244 Color234 **DMX 245**

245 Color235 **DMX 246**

246 Color236 **DMX 247**

247 Color237 **DMX 248**

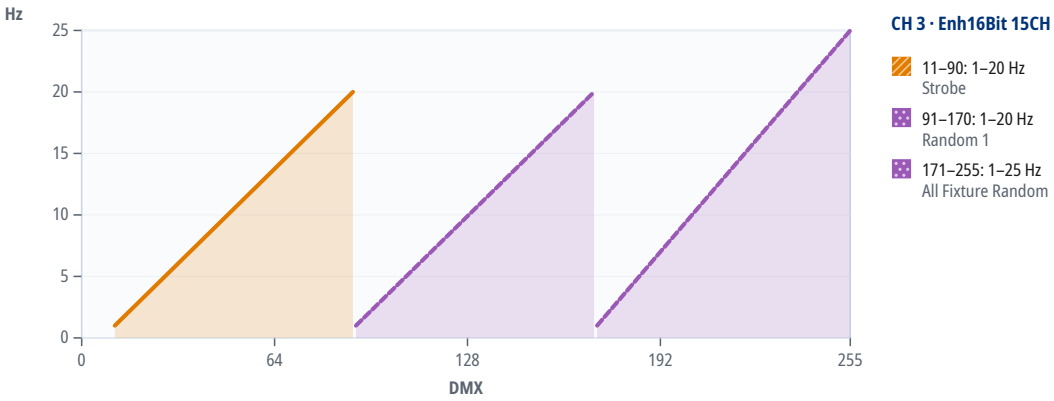
248 Color239 **DMX 249**

249 Color239 **DMX 250–251**

250 Color240

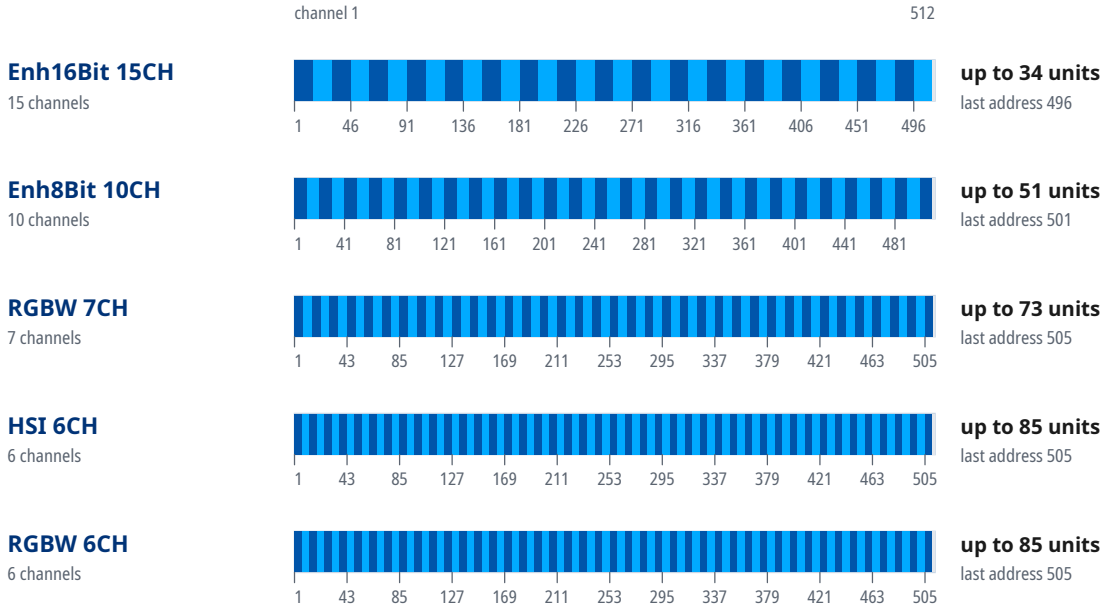
251 Color241 **DMX 29**

Strobe rate



8 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Enh16Bit 15CH”

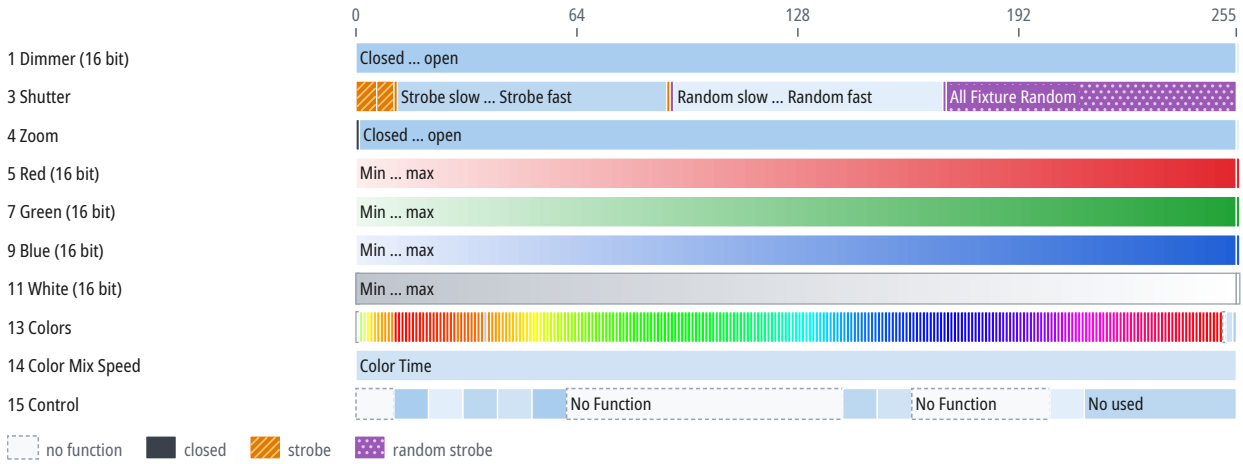
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	76	11	151	16	226
2	16	7	91	12	166	17	241
3	31	8	106	13	181	18	256
4	46	9	121	14	196	19	271
5	61	10	136	15	211	20	286

Mode Enh16Bit 15CH

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 1 Dimmer above 0.

Channel functions at a glance



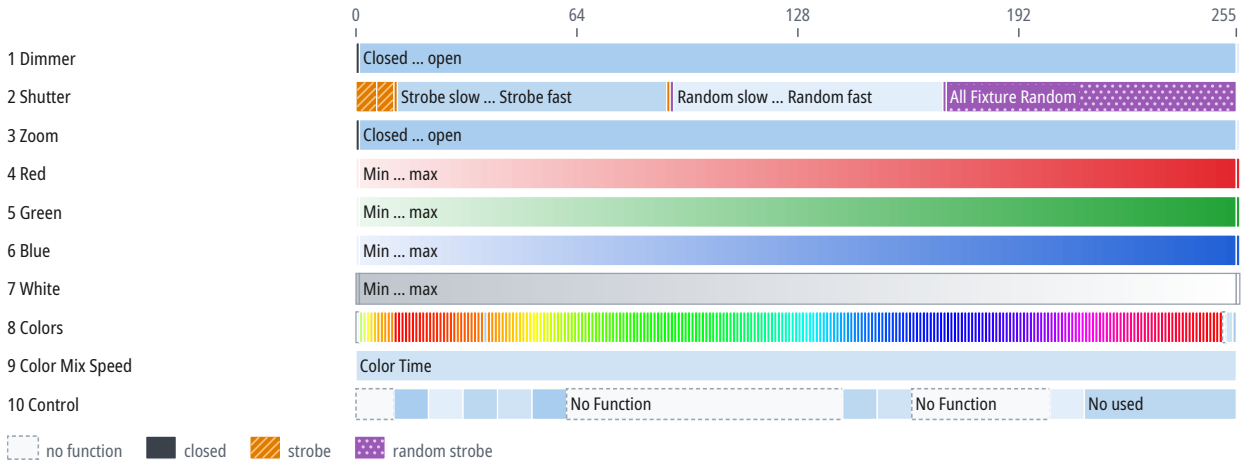
CH	Function	DMX	Description
1	Dimmer	0–255	Closed ... open
		255	Open
2	Dimmer Fine	0–255	Fine adjustment of CH 1
3	Shutter	0–5	Forward Setting
		6–10	Reverse Setting
		11	Strobe slow
		12–89	Strobe slow ... Strobe fast
		90	Strobe fast
		91	Random slow
		92–169	Random slow ... Random fast
		170	Random fast
		171–255	All Fixture Random (1–25 Hz)
4	Zoom	0	Closed
		1–254	Closed ... open
		255	Open
5	Red	0–255	Min ... max
		255	Max
6	Red Fine	0–255	Fine adjustment of CH 5
7	Green	0–255	Min ... max
		255	Max
8	Green Fine	0–255	Fine adjustment of CH 7
9	Blue	0–255	Min ... max
		255	Max
10	Blue Fine	0–255	Fine adjustment of CH 9
11	White	0–255	Min ... max
		255	Max
12	White Fine	0–255	Fine adjustment of CH 11
13	Colors	0	Full power RGBL
		1	10000K
		2	8000K
		3	6500K
		4	5600K
		5	5000K
		6	4500K
		7	4000K
		8	3200K
		9	3000K
		10	2700K
		11	Color 1
		12–248	Color2...238
		249–250	Color239

CH	Function	DMX	Description
13	Colors (continued)	251	No Function
		252–253	CW (0–180 °/s)
		254–255	CCW (180–0 °/s)
14	Color Mix Speed	0–255	Color Time
15	Control	0–10	No Function
		11–20	Dim0
		21–30	Dim1
		31–40	Dim2
		41–50	Dim3
		51–60	Dim4
		61–140	No Function
		141–150	Fast Dimmer off
		151–160	Fast Dimmer on
		161–200	No Function
		201–210	Zoom Reset
		211–255	No used

Mode Enh8Bit 10CH

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0.

Channel functions at a glance



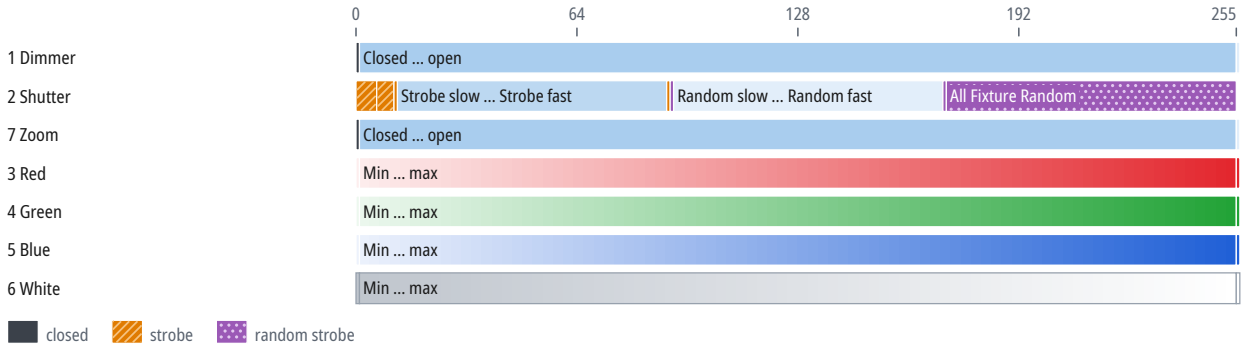
CH	Function	DMX	Description
1	Dimmer	0	Closed
		1–254	Closed ... open
		255	Open
2	Shutter		Same as CH 3 in the mode “Enh16Bit 15CH” (p. 14)
3	Zoom		Same as CH 4 in the mode “Enh16Bit 15CH” (p. 14)
4	Red	0	Min
		1–254	Min ... max
		255	Max
5	Green	0	Min

CH	Function	DMX	Description
5	Green (continued)	1–254	Min … max
		255	Max
6	Blue	0	Min
		1–254	Min … max
		255	Max
7	White	0	Min
		1–254	Min … max
		255	Max
8	Colors		Same as CH 13 in the mode “Enh16Bit 15CH” (p. 14)
9	Color Mix Speed	0–255	Color Time
10	Control		Same as CH 15 in the mode “Enh16Bit 15CH” (p. 15)

Mode RGBW 7CH

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0.

Channel functions at a glance

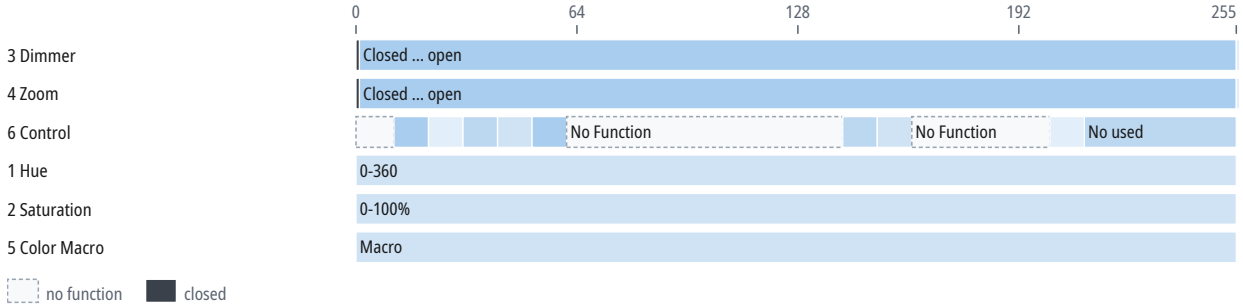


CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Enh8Bit 10CH” (p. 15)
2	Shutter		Same as CH 3 in the mode “Enh16Bit 15CH” (p. 14)
3	Red		Same as CH 4 in the mode “Enh8Bit 10CH” (p. 15)
4	Green		Same as CH 5 in the mode “Enh8Bit 10CH” (p. 15)
5	Blue		Same as CH 6 in the mode “Enh8Bit 10CH” (p. 16)
6	White		Same as CH 7 in the mode “Enh8Bit 10CH” (p. 16)
7	Zoom		Same as CH 4 in the mode “Enh16Bit 15CH” (p. 14)

Mode HSI 6CH

If the device receives DMX in this mode but gives no light, check these channels: CH 3 Dimmer above 0.

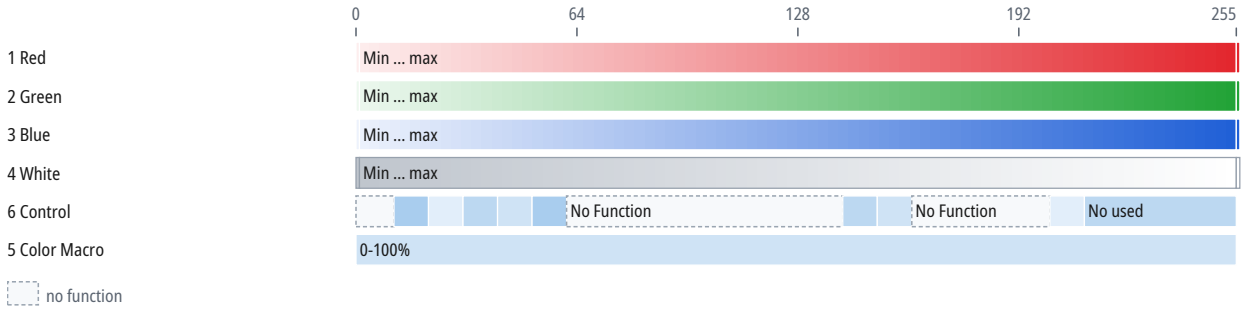
Channel functions at a glance



CH	Function	DMX	Description
1	Hue	0–255	0-360
2	Saturation	0–255	0-100%
3	Dimmer		Same as CH 1 in the mode “Enh8Bit 10CH” (p. 15)
4	Zoom		Same as CH 4 in the mode “Enh16Bit 15CH” (p. 14)
5	Color Macro	0–255	Macro
6	Control		Same as CH 15 in the mode “Enh16Bit 15CH” (p. 15)

Mode RGBW 6CH

Channel functions at a glance



CH	Function	DMX	Description
1	Red		Same as CH 4 in the mode “Enh8Bit 10CH” (p. 15)
2	Green		Same as CH 5 in the mode “Enh8Bit 10CH” (p. 15)
3	Blue		Same as CH 6 in the mode “Enh8Bit 10CH” (p. 16)
4	White		Same as CH 7 in the mode “Enh8Bit 10CH” (p. 16)
5	Color Macro	0–255	0-100%
6	Control		Same as CH 15 in the mode “Enh16Bit 15CH” (p. 15)

9 Technical specifications

Parameter	Value
DMX connection	5-pin XLR IN/OUT
Power connectors	powerCON TRUE1 IN/OUT
Weight	7.2 kg
Operating temperature	-25 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–20 Hz
Color wheel rotation	up to 180 °/s (30 rpm)

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.