DMX REFERENCE

ZONA DWS

JMAZ PROFESSIONAL



Manufacturer	JMAZ PROFESSIONAL
GDTF file	JMAZ_PROFESSIONAL_ZONA_DWS_109722.gdtf
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1 About this manual

This document describes the ZONA DWS by JMAZ PROFESSIONAL. It was compiled from the GDTF file JMAZ_PROFESSIONAL_ZONA_DWS_109722.gdtf from the GDTF-Share library.

File revision: “Version 1.0, 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 JMAZ PROFESSIONAL; 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
Power consumption	30 W
Weight	5 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
3CH	3	170	1, 4, 7, 10, ...
5CH	5	102	1, 6, 11, 16, ...
10CH	10	51	1, 11, 21, 31, ...
16CH	16	32	1, 17, 33, 49, ...
19CH	19	26	1, 20, 39, 58, ...
28CH	28	18	1, 29, 57, 85, ...

No light? Check these channels

- 3CH: CH 1 Dimmer above 0
- 10CH: CH 1 Dimmer 1 above 0; CH 4 Shutter 1 at 112–119, 255 “Open” or 221–254; CH 5 Dimmer 2 above 0; CH 9 Shutter 2 at 112–119, 255 “Open” or 221–254
- 16CH: CH 1 Dimmer 1 above 0; CH 4 Shutter 1 at 112–119, 255 “Open” or 221–254; CH 5 Dimmer 2 above 0; CH 9 Shutter 2 at 112–119, 255 “Open” or 221–254
- 19CH: CH 1 Dimmer 1 above 0; CH 7 Shutter 1 at 112–119, 255 “Open” or 221–254; CH 8 Dimmer 2 above 0; CH 12 Shutter 2 at 112–119, 255 “Open” or 221–254
- 28CH: CH 1 Dimmer 1 above 0; CH 7 Shutter 1 at 112–119, 255 “Open” or 221–254; CH 8 Dimmer 2 above 0; CH 21 Shutter 2 at 112–119, 255 “Open” or 221–254


Read the manual before use


Risk of electric shock


Do not stare into the light


Indoor use only

3 Safety instructions


Read the manual before use


Risk of electric shock


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

- Connect the device only to a properly installed mains outlet with a protective earth (ground) contact. The outlet or other means of disconnection must remain easily accessible.
- Power supply: 100–240 V, 50/60 Hz. Before connecting, make sure that the mains voltage matches this value and the value on the rating plate of the device.
- Do not connect the device to a dimmer or to a dimmed circuit.
- Use only the original power cable or a cable with identical ratings. Protect the cable from damage, do not run it over sharp edges, and never unplug it by pulling on the cable.
- When connecting several devices to one circuit, do not exceed its permitted load.
- Do not touch the device with wet hands.

⚠ 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

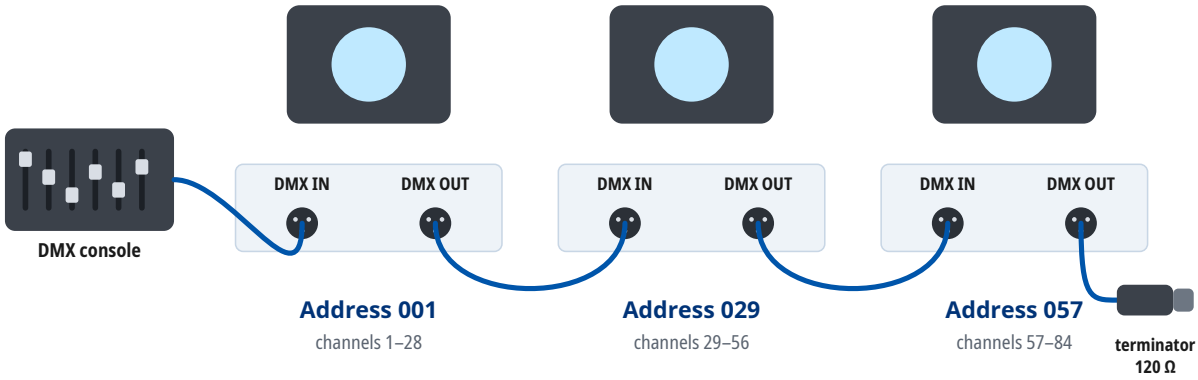
⚠ **WARNING**

- 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: 5 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 28CH: every unit occupies 28 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

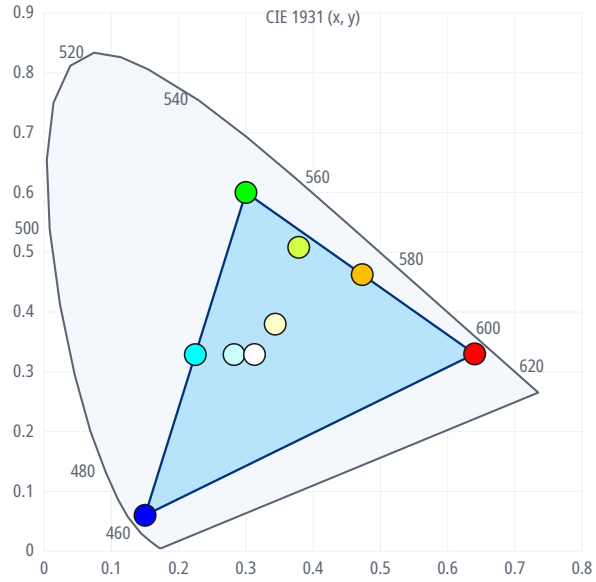
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “28CH”: 28.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “28CH”, you can use, for example, the start addresses 1, 29, 57, 85.
- 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

	3CH 3 channels	5CH 5 channels	10CH 10 channels	16CH 16 channels	19CH 19 channels	28CH 28 channels
Dimmer	1	✓	1, 5	1, 5	1, 8	1, 8
Dimmer resolution	8 bit		8 bit	8 bit	16 bit	16 bit
Shutter / strobe			4, 9	4, 9	7, 12	7, 21
Color mixing		1–5	2, 3, 6–8	2, 3, 6–8	3, 5, 9–11	3, 5, 9–20
Color temperature	2			10	13	22
Effects / macros				11–14	14–17	23–26
Pixel control						✓

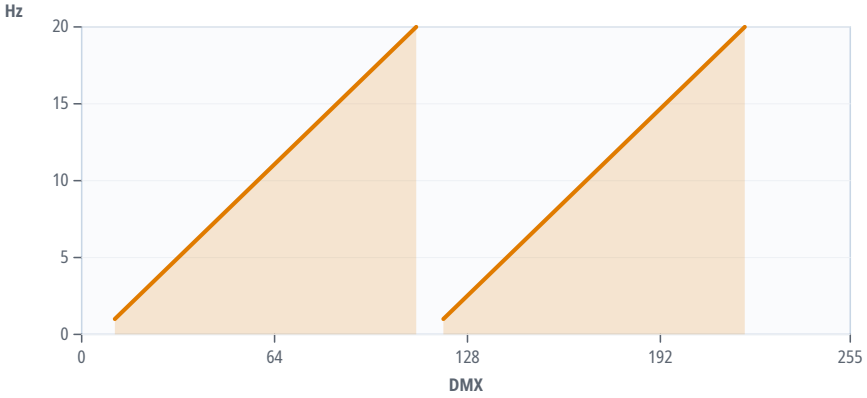
LED colors and the colors they mix



LED	x	y
Red	0.640	0.330
Green	0.300	0.600
Blue	0.150	0.060
Amber	0.473	0.463
Lime	0.379	0.508
Cyan	0.225	0.329
WW	0.344	0.380
CW	0.282	0.329
W	0.313	0.329

The shaded area holds the colors the LEDs can mix; the dots are the LED colors the GDTF file states.

Strobe rate

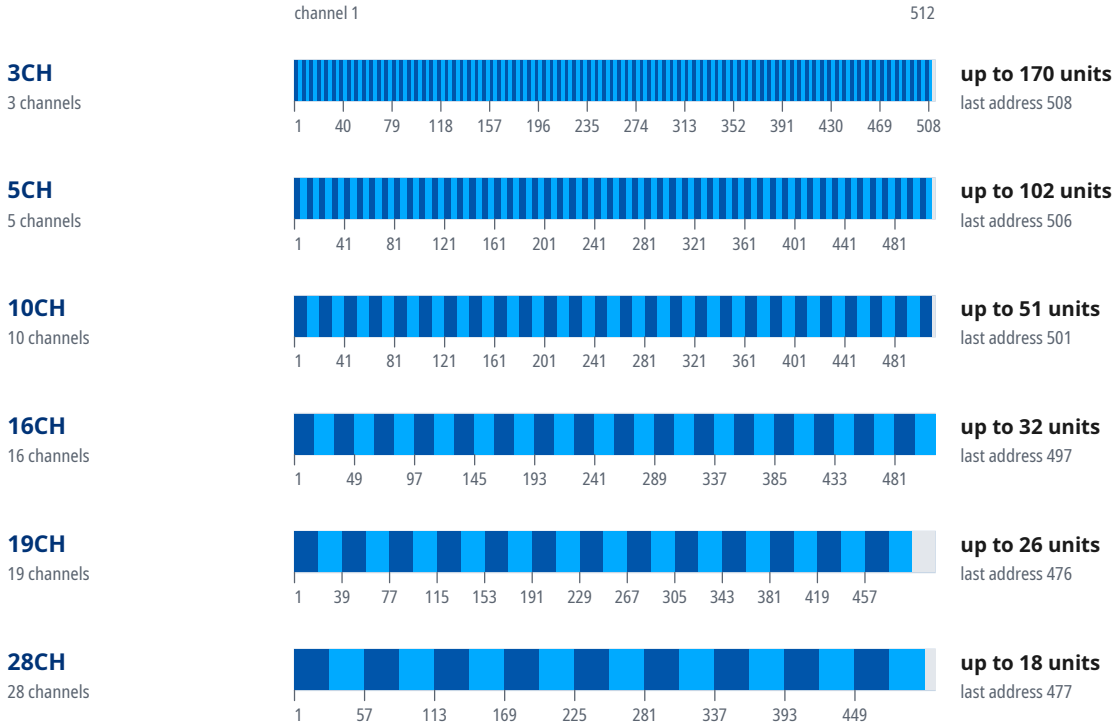


CH 7 · 28CH

- 11–111: 1–20 Hz
  Strobe
- 120–220: 1–20 Hz
  Pluse

8 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “28CH”

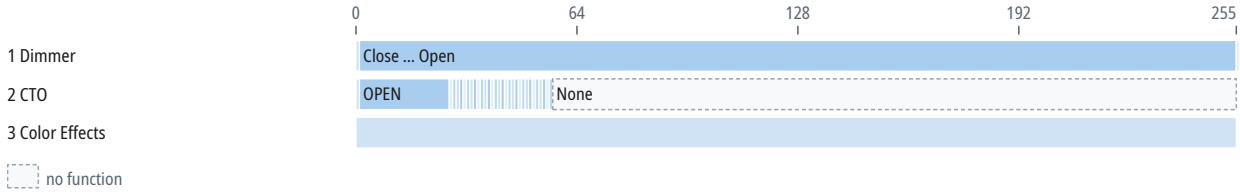
Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	141	11	281	16	421
2	29	7	169	12	309	17	449
3	57	8	197	13	337	18	477
4	85	9	225	14	365	19	U2 · 1
5	113	10	253	15	393	20	U2 · 29

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 3CH

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.

Channel functions at a glance

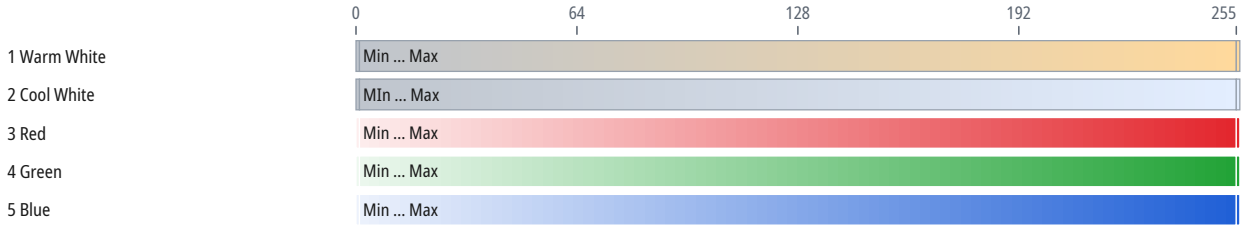


CH	Function	DMX	Description
1	Dimmer	0	Close
		1–254	Close … Open
		255	Open
2	CTO	0	Open
		1–26	OPEN
		27	2700K
		28	2800K
		29	2900K
		30	3000K
		31	3100K
		32	3200K
		33	3300K
		34	3400K
		35	3500K
		36	3600K
		37	3700K
		38	3800K
		39	3900K
		40	4000K
		41	4100K
		42	4200K
		43	4300K
		44	4400K
		45	4500K
		46	4600K
		47	4700K
		48	4800K
		49	4900K
		50	5000K
		51	5100K
		52	5200K
		53	5300K
		54	5400K
		55	5500K
		56	5600K
		57–255	None
3	Color Effects	0–255	

Mode 5CH

The GDTF file gives these values for a console's Highlight function: CH 3 Red 255, CH 4 Green 255, CH 5 Blue 255.

Channel functions at a glance

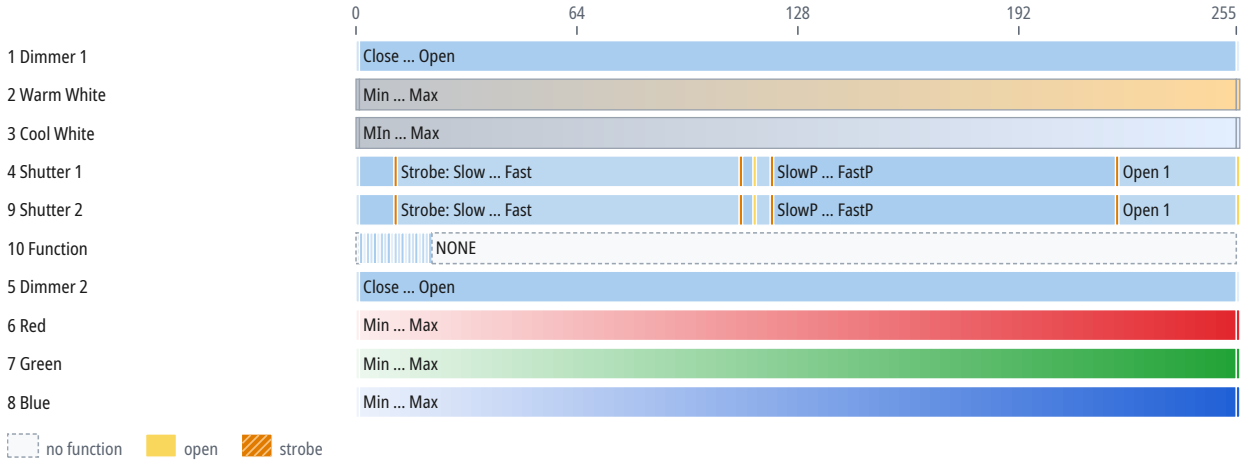


CH	Function	DMX	Description
1	Warm White	0	Min
		1–254	Min ... Max
		255	Max
2	Cool White	0	MIn
		1–254	MIn ... Max
		255	Max
3	Red	0	Min
		1–254	Min ... Max
		255	Max
4	Green	0	Min
		1–254	Min ... Max
		255	Max
5	Blue	0	Min
		1–254	Min ... Max
		255	Max

Mode 10CH

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer 1 above 0; CH 4 Shutter 1 at 112–119, 255 “Open” or 221–254; CH 5 Dimmer 2 above 0; CH 9 Shutter 2 at 112–119, 255 “Open” or 221–254. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 1 255, CH 4 Shutter 1 255, CH 5 Dimmer 2 255, CH 6 Red 255, CH 7 Green 255, CH 8 Blue 255, CH 9 Shutter 2 255.

Channel functions at a glance



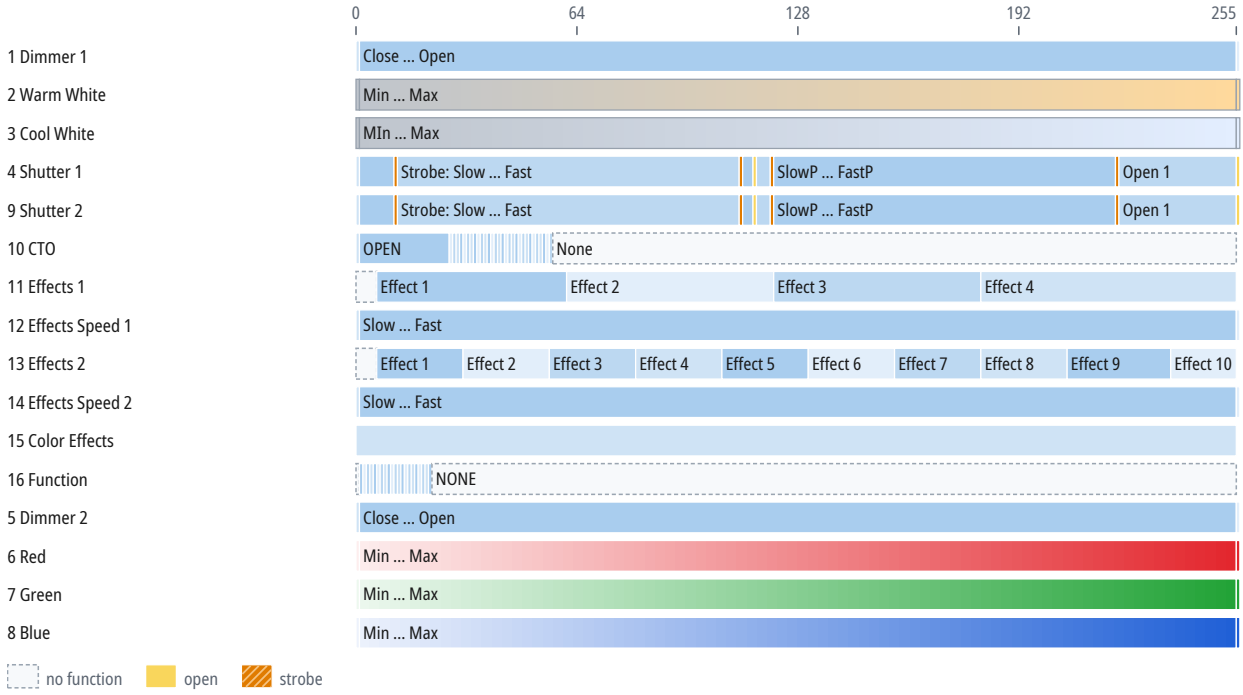
CH	Function	DMX	Description
1	Dimmer 1	0	Close
		1–254	Close ... Open
		255	Open
2	Warm White		Same as CH 1 in the mode “5CH” (p. 10)
3	Cool White		Same as CH 2 in the mode “5CH” (p. 10)
4	Shutter 1	0–10	None
		11	Strobe: Slow
		12–110	Strobe: Slow ... Fast
		111	Strobe: Fast
		112–119	Open
		120	SlowP
		121–219	SlowP ... FastP
		220	FastP
		221–254	Open 1
		255	Open
5	Dimmer 2	0	Close
		1–254	Close ... Open
		255	Open
6	Red		Same as CH 3 in the mode “5CH” (p. 10)
7	Green		Same as CH 4 in the mode “5CH” (p. 10)
8	Blue		Same as CH 5 in the mode “5CH” (p. 10)
9	Shutter 2	0–10	None
		11	Strobe: Slow

CH	Function	DMX	Description
9	Shutter 2 (continued)	12–110	Strobe: Slow ... Fast
		111	Strobe: Fast
		112–119	Open
		120	SlowP
		121–219	SlowP ... FastP
		220	FastP
		221–254	Open 1
		255	Open
10	Function	0	None
		1	Standard
		2	Stage
		3	TV
		4	Architecture
		5	Theater
		6	Stage2
		7	800Hz
		8	1200Hz
		9	2000Hz
		10	3600Hz
		11	6000Hz
		12	10000Hz
		13	12000Hz
		14	15000Hz
		15	20000Hz
		16	25000Hz
		17	Linear
		18	Square
		19	F-Square
		20	S-Line
		21	Reset
		22–255	NONE

Mode 16CH

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer 1 above 0; CH 4 Shutter 1 at 112–119, 255 “Open” or 221–254; CH 5 Dimmer 2 above 0; CH 9 Shutter 2 at 112–119, 255 “Open” or 221–254. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 1 255, CH 4 Shutter 1 255, CH 5 Dimmer 2 255, CH 6 Red 255, CH 7 Green 255, CH 8 Blue 255, CH 9 Shutter 2 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer 1		Same as CH 1 in the mode “10CH” (p. 11)
2	Warm White		Same as CH 1 in the mode “5CH” (p. 10)
3	Cool White		Same as CH 2 in the mode “5CH” (p. 10)
4	Shutter 1		Same as CH 4 in the mode “10CH” (p. 11)
5	Dimmer 2		Same as CH 5 in the mode “10CH” (p. 11)
6	Red		Same as CH 3 in the mode “5CH” (p. 10)
7	Green		Same as CH 4 in the mode “5CH” (p. 10)
8	Blue		Same as CH 5 in the mode “5CH” (p. 10)
9	Shutter 2		Same as CH 9 in the mode “10CH” (p. 11)
10	CTO		Same as CH 2 in the mode “3CH” (p. 9)
11	Effects 1	0–5	None
		6–60	Effect 1
		61–120	Effect 2
		121–180	Effect 3
		181–255	Effect 4
12	Effects Speed 1	0	Slow

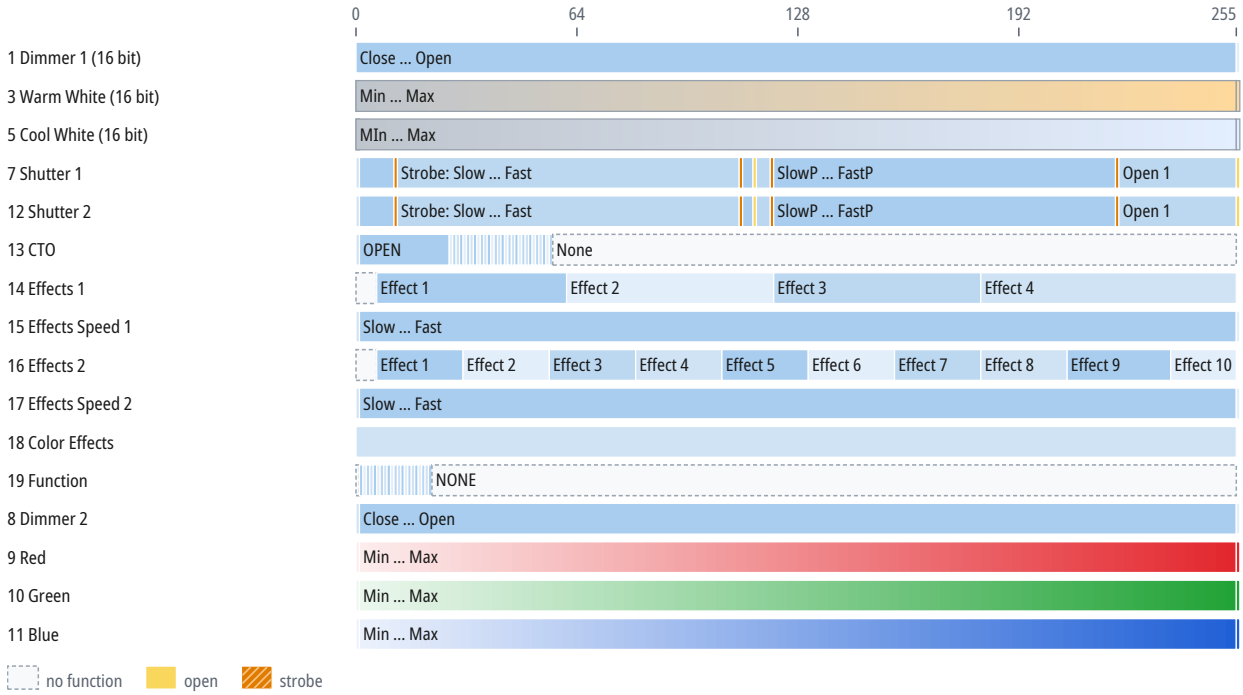
CH	Function	DMX	Description
12	Effects Speed 1 (continued)	1–254	Slow … Fast
		255	Fast
13	Effects 2	0–5	None
		6–30	Effect 1
		31–55	Effect 2
		56–80	Effect 3
		81–105	Effect 4
		106–130	Effect 5
		131–155	Effect 6
		156–180	Effect 7
		181–205	Effect 8
		206–235	Effect 9
		236–255	Effect 10
14	Effects Speed 2	0	Slow
		1–254	Slow … Fast
		255	Fast
15	Color Effects	0–255	
16	Function		Same as CH 10 in the mode “10CH” (p. 12)

Mode 19CH

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 1 above 0; CH 7 Shutter 1 at 112–119, 255 “Open” or 221–254; CH 8 Dimmer 2 above 0; CH 12 Shutter 2 at 112–119, 255 “Open” or 221–254. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 1 255, CH 7 Shutter 1 255, CH 8 Dimmer 2 255, CH 9 Red 255, CH 10 Green 255, CH 11 Blue 255, CH 12 Shutter 2 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer 1	0–255	Close ... Open
		255	Open
2	Dimmer 1 Fine	0–255	Fine adjustment of CH 1
3	Warm White	0–255	Min ... Max
		255	Max
4	Warm White Fine	0–255	Fine adjustment of CH 3
5	Cool White	0–255	MIn ... Max
		255	Max
6	Cool White Fine	0–255	Fine adjustment of CH 5
7	Shutter 1		Same as CH 4 in the mode “10CH” (p. 11)
8	Dimmer 2		Same as CH 5 in the mode “10CH” (p. 11)
9	Red		Same as CH 3 in the mode “5CH” (p. 10)
10	Green		Same as CH 4 in the mode “5CH” (p. 10)
11	Blue		Same as CH 5 in the mode “5CH” (p. 10)
12	Shutter 2		Same as CH 9 in the mode “10CH” (p. 11)
13	CTO		Same as CH 2 in the mode “3CH” (p. 9)

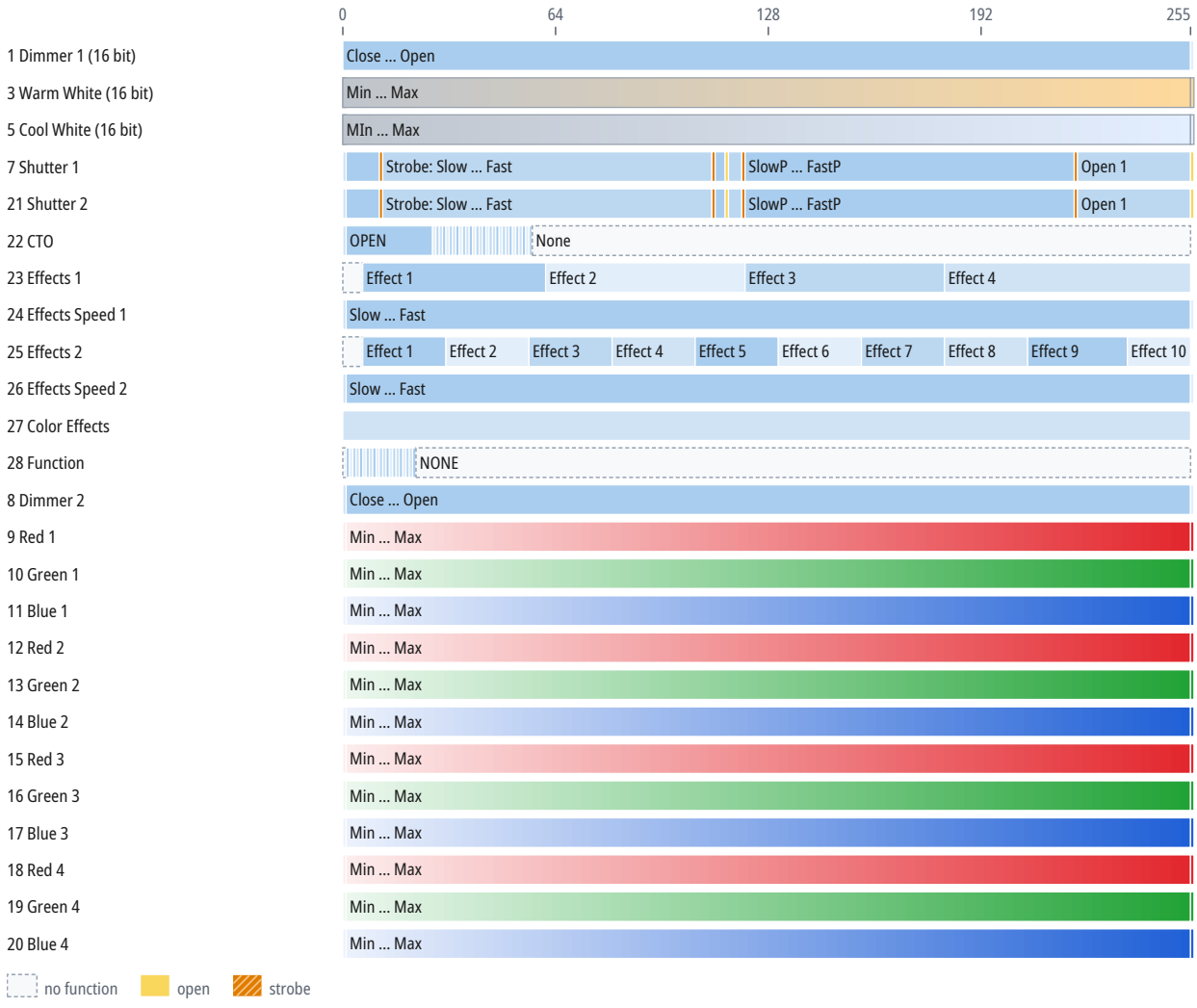
CH	Function	DMX	Description
14	Effects 1		Same as CH 11 in the mode “16CH” (p. 13)
15	Effects Speed 1		Same as CH 12 in the mode “16CH” (p. 13)
16	Effects 2		Same as CH 13 in the mode “16CH” (p. 14)
17	Effects Speed 2		Same as CH 14 in the mode “16CH” (p. 14)
18	Color Effects	0–255	
19	Function		Same as CH 10 in the mode “10CH” (p. 12)

Mode 28CH

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 1 above 0; CH 7 Shutter 1 at 112–119, 255 “Open” or 221–254; CH 8 Dimmer 2 above 0; CH 21 Shutter 2 at 112–119, 255 “Open” or 221–254. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 1 255, CH 7 Shutter 1 255, CH 8 Dimmer 2 255, CH 9 Red 1 255, CH 10 Green 1 255, CH 11 Blue 1 255, CH 12 Red 2 255, CH 13 Green 2 255, CH 14 Blue 2 255, CH 15 Red 3 255, CH 16 Green 3 255, CH 17 Blue 3 255, CH 18 Red 4 255, CH 19 Green 4 255, CH 20 Blue 4 255, CH 21 Shutter 2 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer 1		Same as CH 1 in the mode “19CH” (p. 15)
2	Dimmer 1 Fine	0–255	Fine adjustment of CH 1
3	Warm White		Same as CH 3 in the mode “19CH” (p. 15)
4	Warm White Fine	0–255	Fine adjustment of CH 3
5	Cool White		Same as CH 5 in the mode “19CH” (p. 15)
6	Cool White Fine	0–255	Fine adjustment of CH 5
7	Shutter 1		Same as CH 4 in the mode “10CH” (p. 11)
8	Dimmer 2		Same as CH 5 in the mode “10CH” (p. 11)
9	Red 1	0	Min
		1–254	Min … Max
		255	Max
10	Green 1	0	Min
		1–254	Min … Max
		255	Max
11	Blue 1	0	Min
		1–254	Min … Max
		255	Max
12	Red 2	0	Min
		1–254	Min … Max
		255	Max
13	Green 2	0	Min
		1–254	Min … Max
		255	Max
14	Blue 2	0	Min
		1–254	Min … Max
		255	Max
15	Red 3	0	Min
		1–254	Min … Max
		255	Max
16	Green 3	0	Min
		1–254	Min … Max
		255	Max
17	Blue 3	0	Min
		1–254	Min … Max
		255	Max
18	Red 4	0	Min
		1–254	Min … Max
		255	Max
19	Green 4	0	Min
		1–254	Min … Max

CH	Function	DMX	Description
19	Green 4 (continued)	255	Max
20	Blue 4	0	Min
		1–254	Min ... Max
		255	Max
21	Shutter 2		Same as CH 9 in the mode “10CH” (p. 11)
22	CTO		Same as CH 2 in the mode “3CH” (p. 9)
23	Effects 1		Same as CH 11 in the mode “16CH” (p. 13)
24	Effects Speed 1		Same as CH 12 in the mode “16CH” (p. 13)
25	Effects 2		Same as CH 13 in the mode “16CH” (p. 14)
26	Effects Speed 2		Same as CH 14 in the mode “16CH” (p. 14)
27	Color Effects	0–255	
28	Function		Same as CH 10 in the mode “10CH” (p. 12)

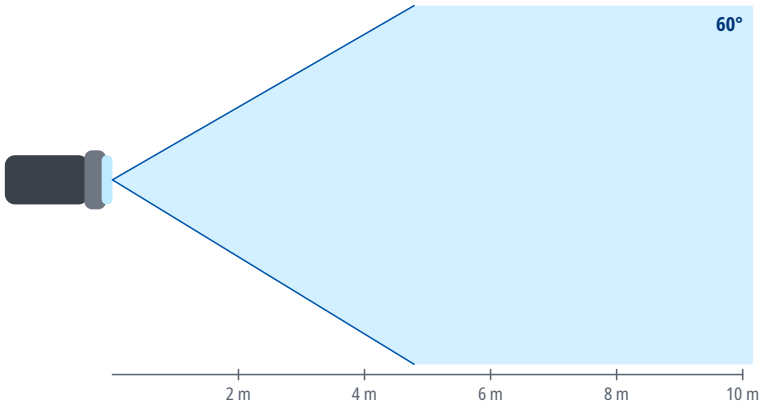
9 Technical specifications

Parameter	Value
Power supply	100–240 V, 50/60 Hz
Power consumption	30 W
Power connectors	powerCON TRUE1 IN
Weight	5 kg
Operating temperature	-10 to 45 °C

Speeds and ranges

Parameter	Value
Color temperature range	2300–8500 K
Strobe frequency	1–20 Hz

Spot diameter



Distance	Ø 60°
2 m	2.3 m
4 m	4.6 m
6 m	6.9 m
8 m	9.2 m
10 m	11.5 m
15 m	17.3 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.