DMX REFERENCE

ArcShineM9FC_8

Prolights



Manufacturer	Prolights
GDTF file	Prolights_ArcShineM9FC_8_63855.gdtf
GDTF revision	Rev 0.3 · 2024-05-13
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1 About this manual

This document describes the ArcShineM9FC_8 by Prolights. It was compiled from the GDTF file Prolights_ArcShineM9FC_8_63855.gdtf from the GDTF-Share library.

File revision: “Rev 0.3”.

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 Prolights; 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	3 kg
Ingress protection	IP66

DMX modes

Mode	Channels	Units in one universe	First start addresses
1ch	1	512	1, 2, 3, 4, ...
2ch	2	256	1, 3, 5, 7, ...
5ch	5	102	1, 6, 11, 16, ...
9ch	9	56	1, 10, 19, 28, ...
12ch	12	42	1, 13, 25, 37, ...

No light? Check these channels

- 1ch: CH 1 Dimmer above 0
- 2ch: CH 1 Dimmer above 0
- 9ch: CH 1 Dimmer above 0; CH 7 Shutter at 0–1, 63–64, 126–127, 189–190 or 252–255 “Open”
- 12ch: CH 1 Dimmer above 0; CH 7 Shutter at 0–1, 63–64, 126–127, 189–190 or 252–255 “Open”



Read the manual before use



Do not stare into the light

3 Safety instructions



Read the manual before use



Do not stare into the light

⚠ 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.

⚠ CAUTION

- The device is rated IP66 and may be used outdoors within the limits of this rating.
- This protection is effective only when all connectors are mated or closed with their protective caps and all seals are intact. Use cables and connectors with the same or a higher protection rating.
- Do not open the housing; opening it breaks the seals and the protection rating can no longer be guaranteed.
- Install the device so that water cannot collect around connectors and cable glands, and inspect seals and cables regularly.

⚠ 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 Product description

Description in the GDTF file

“The ArcShine S18FC and ArcShine S9FC are a series of slim linear LED fixtures, designed for interior and exterior applications (IP66) such as flood lighting, wall washing and accent lighting.”

5 Installation

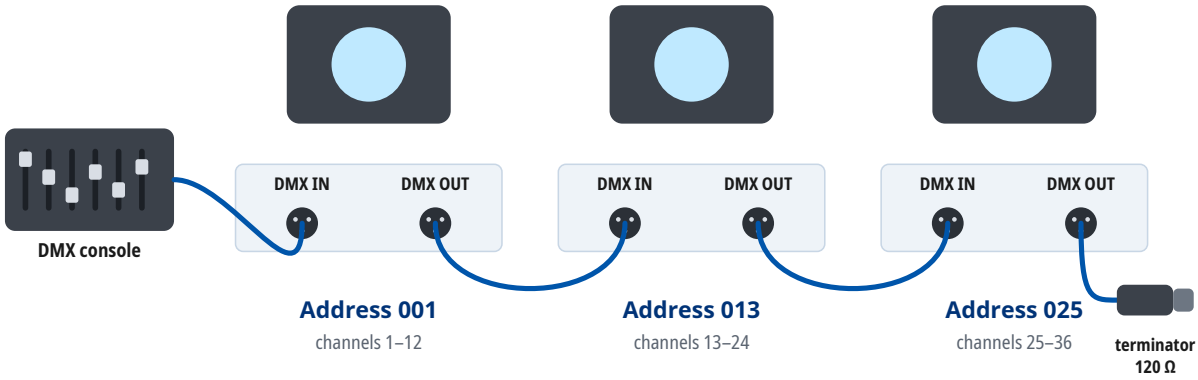
⚠ **WARNING**

- 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: 3 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 12ch: every unit occupies 12 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

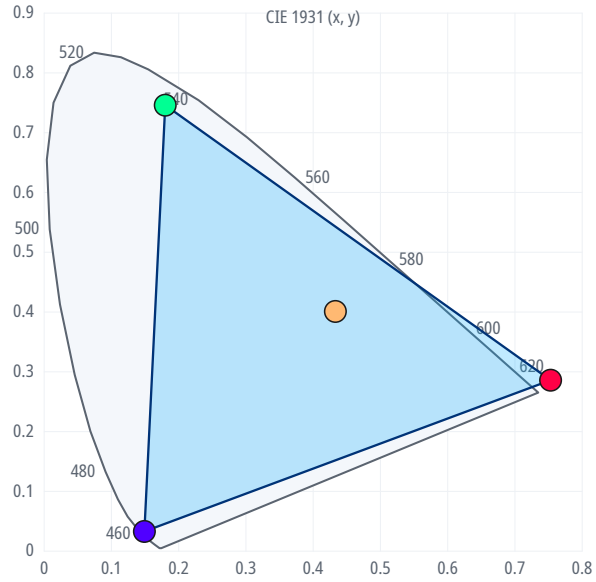
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “12ch”: 12.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “12ch”, you can use, for example, the start addresses 1, 13, 25, 37.
- 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

	1ch 1 channel	2ch 2 channels	5ch 5 channels	9ch 9 channels	12ch 12 channels
Pan / Tilt	✓	✓	✓	✓	✓
Dimmer	1	1	✓	1	1
Dimmer resolution	8 bit	16 bit		16 bit	16 bit
Shutter / strobe				7	7
Color mixing			1–4	3–6	3–6
Effects / macros					8–10

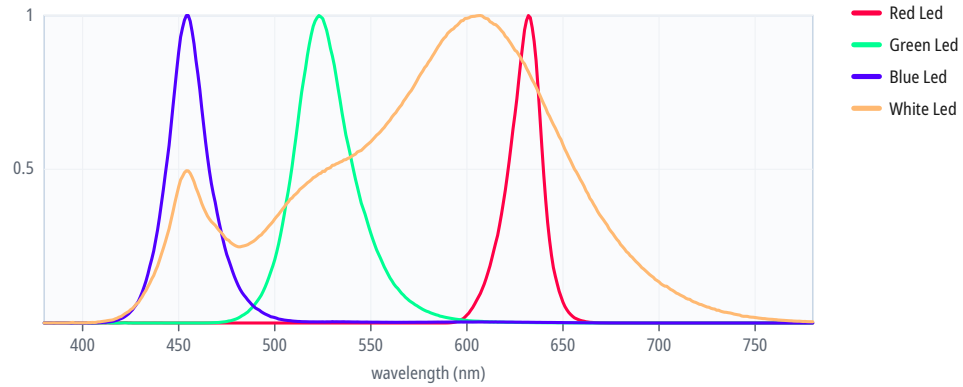
LED colors and the colors they mix



LED	x	y	nm
Red Led	0.753	0.286	632
Green Led	0.180	0.746	531
Blue Led	0.149	0.033	459
White Led	0.433	0.401	

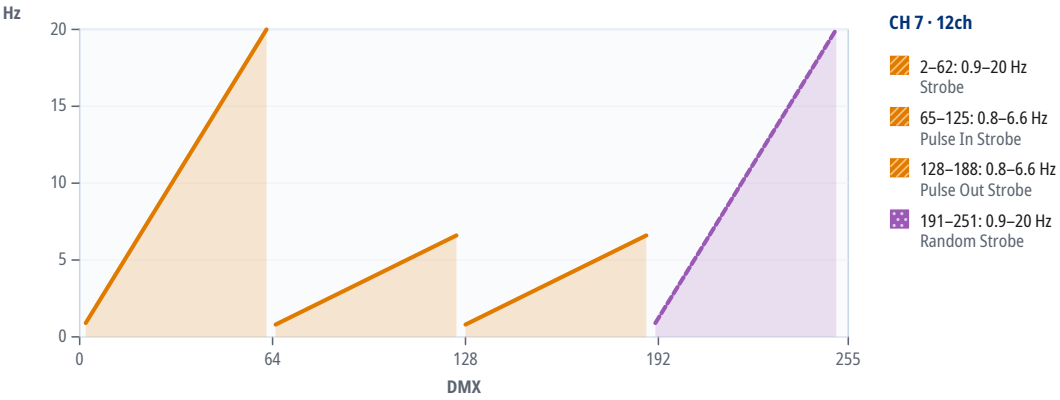
The shaded area holds the colors the LEDs can mix; the dots are the LED colors the GDTF file states.

Spectra of the light sources



Relative spectrum of each light source as the GDTF file states it; each curve is scaled to its own maximum.

Strobe rate



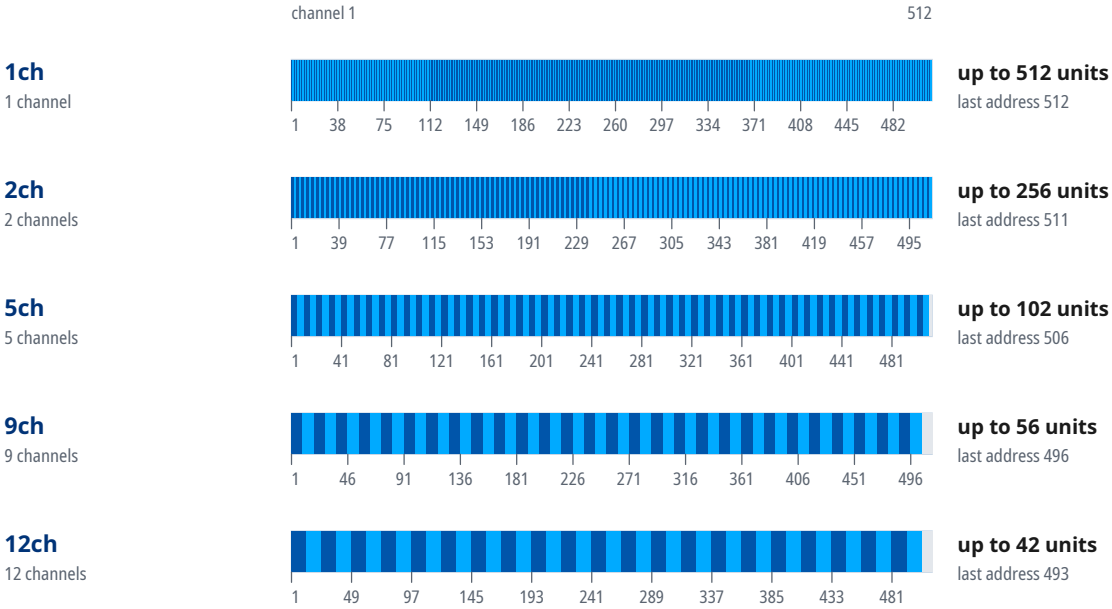
Cells (pixels)



9 cells where the GDTF file places them (seen from above), numbered in the file's order; the mode “12ch” drives them together.

9 DMX channels

Units in one DMX universe



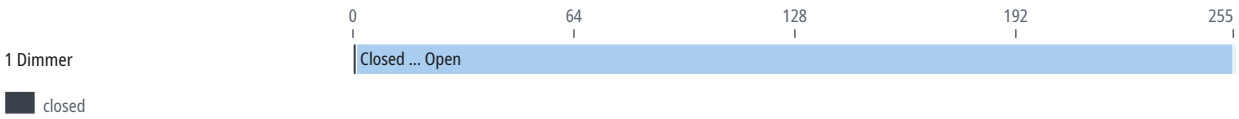
Start addresses of 20 units in the mode “12ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	61	11	121	16	181
2	13	7	73	12	133	17	193
3	25	8	85	13	145	18	205
4	37	9	97	14	157	19	217
5	49	10	109	15	169	20	229

Mode 1ch

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



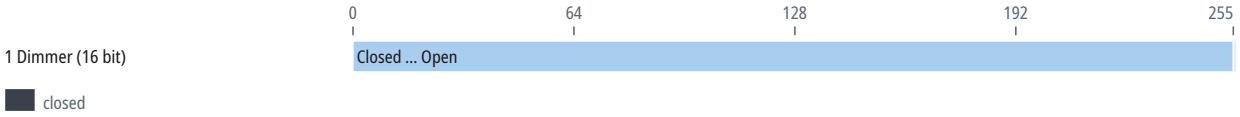
CH	Function	DMX	Description
1	Dimmer	0	Closed
		1–254	Closed … Open
		255	Open

Mode 2ch

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. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255.

Channel functions at a glance

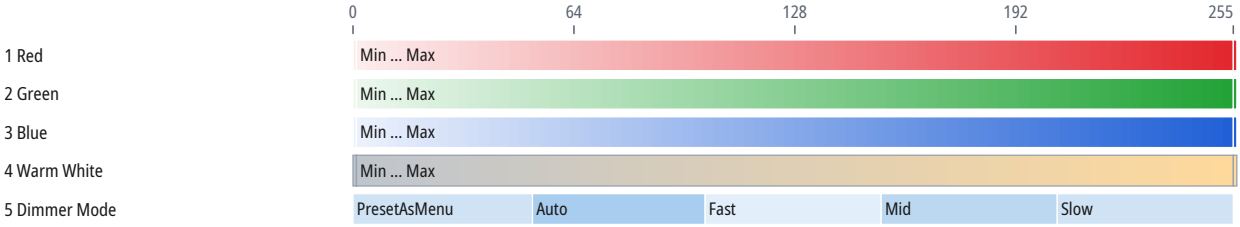


CH	Function	DMX	Description
1	Dimmer	0–255	Closed … Open
		255	Open
2	Dimmer Fine	0–255	Fine adjustment of CH 1

Mode 5ch

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 Warm White 255.

Channel functions at a glance



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

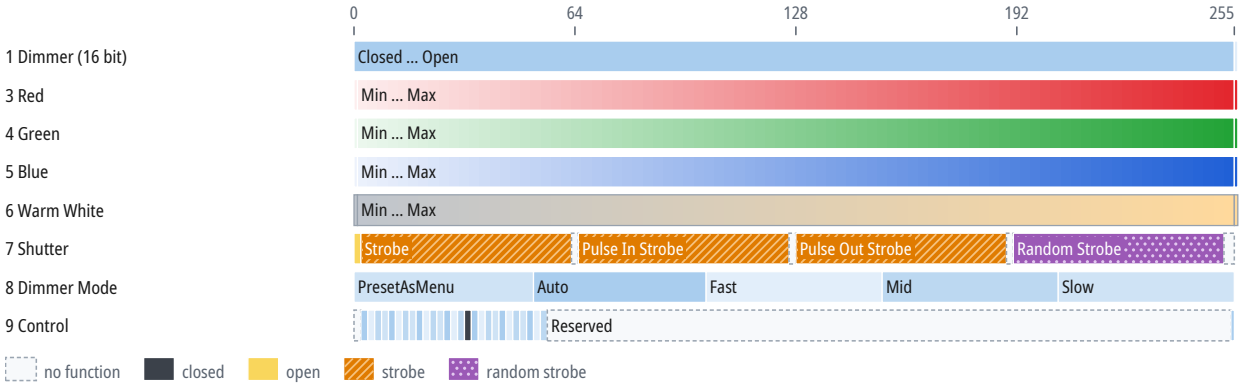
CH	Function	DMX	Description
4	Warm White (continued)	255	Max
5	Dimmer Mode	0–51	PresetAsMenu
		52–101	Auto
		102–152	Fast
		153–203	Mid
		204–255	Slow

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 1 Dimmer above 0; CH 7 Shutter at 0–1, 63–64, 126–127, 189–190 or 252–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 3 Red 255, CH 4 Green 255, CH 5 Blue 255, CH 6 Warm White 255, CH 7 Shutter 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “2ch” (p. 9)
2	Dimmer Fine	0–255	Fine adjustment of CH 1
3	Red		Same as CH 1 in the mode “5ch” (p. 9)
4	Green		Same as CH 2 in the mode “5ch” (p. 9)
5	Blue		Same as CH 3 in the mode “5ch” (p. 9)
6	Warm White		Same as CH 4 in the mode “5ch” (p. 9)
7	Shutter	0–1	Open
		2–62	Strobe (0.9–20 Hz)
		63–64	Open
		65–125	Pulse In Strobe (0.8–6.6 Hz)
		126–127	Open
		128–188	Pulse Out Strobe (0.8–6.6 Hz)
		189–190	Open
		191–251	Random Strobe (0.9–20 Hz)
		252–255	Open
8	Dimmer Mode		Same as CH 5 in the mode “5ch” (p. 10)
9	Control	0–1	NoFunction

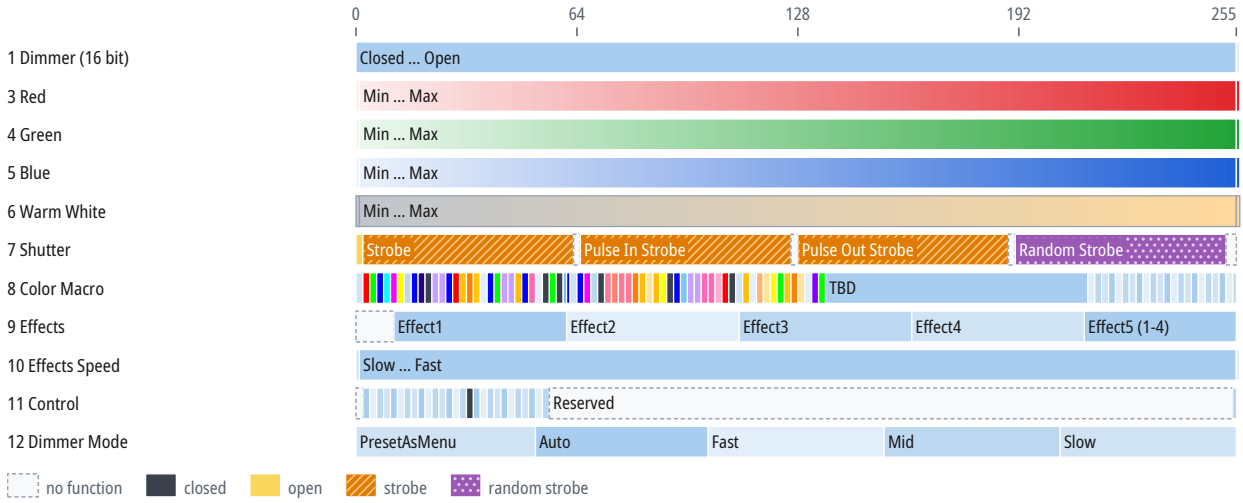
CH	Function	DMX	Description
9	Control (continued)	2–3	Linear
		4–5	S-Curve
		6–7	Square Law
		8–9	Inverse Square Law
		10–11	Auto
		12–13	Dimmer Speed: Fast
		14–15	Medium
		16–17	Dimmer Speed: Slow
		18–19	600 Hz
		20–21	1200 Hz
		22–23	2000 Hz
		24–25	4000 Hz
		26–27	6000 Hz
		28–29	25 kHz
		30–31	Hold
		32–33	BlackOut
		34–35	StandAlone
		36–37	Master DMX
		38–39	Master NO DMX
		40–41	SLAVE
		42–43	Effects
		44–45	Static Colors
		46–47	White Preset
		48–49	Color Maros
		50–51	Manual Colors
		52–53	Invert Mapping OFF
		54–55	Invert Mapping ON
		56–253	Reserved
		254–255	Factory Default

Mode 12ch

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; CH 7 Shutter at 0–1, 63–64, 126–127, 189–190 or 252–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 3 Red 255, CH 4 Green 255, CH 5 Blue 255, CH 6 Warm White 255, CH 7 Shutter 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “2ch” (p. 9)
2	Dimmer Fine	0–255	Fine adjustment of CH 1
3	Red		Same as CH 1 in the mode “5ch” (p. 9)
4	Green		Same as CH 2 in the mode “5ch” (p. 9)
5	Blue		Same as CH 3 in the mode “5ch” (p. 9)
6	Warm White		Same as CH 4 in the mode “5ch” (p. 9)
7	Shutter		Same as CH 7 in the mode “9ch” (p. 10)
8	Color Macro	0–1	Open
		2–3	Red
		4–5	Green
		6–7	Blue
		8–9	Cyan
		10–11	Magenta
		12–13	Yellow
		14–15	Dirty White
		16–17	Alice Blue
		18–19	Congo Blue
		20–21	Dark Steel Blue
		22–23	Deep Lavender
		24–25	Lilac Ting
		26–27	Daylight Blue

CH	Function	DMX	Description
8	Color Macro (continued)	28–29	Flame Red
		30–31	Bastard Amber
		32–33	Deep Orange
		34–35	Pale Gold
		36–37	Apricot
		38–39	Bright Blue
		40–41	Primary Green
		42–43	Special Lavender
		44–45	Pale Lavender
		46–47	Deep Golden Amber
		48–49	Medium Blue
		50–51	Bright Pink
		52–53	Mauve
		54–55	Dark Green
		56–57	Lee Green
		58–59	Dark Blue
		60	Light Blue
		61	Steel Blue
		62–63	Medium Blue-Green
		64–65	Peacock Blue
		66–67	Magenta
		68–69	Magenta ... Dark Pink
		70–71	Dark Pink
		72–73	Middle Rose
		74–75	Light Salmon
		76–77	English Rose
		78–79	Light Rose
		80–81	Orange
		82–83	Deep Amber
		84–85	Straw
		86–87	Light Amber
		88–89	Spring Yellow
		90–91	Dark Yellow Green
		92–93	Just Blue
		94–95	Sky Blue
		96–97	Lavender
		98–99	Light Lavender
		100–101	Pink Carnation
		102–103	Medium Pink
		104–105	Light Pink
		106–107	Sunset Red

CH	Function	DMX	Description
8	Color Macro (continued)	108–109	Dark Amber
		110–111	Gold Amber
		112–113	Medium Amber
		114–115	Fire
		116–117	Surprise Peach
		118–119	Straw Tint
		120–121	Medium Yellow
		122–123	Lee Minus Green
		124–125	Pale Gold
		126–127	Orange
		128–129	Deep Straw
		130–131	Rose Purple
		132–133	Deep Purple
		134–135	Soft Green
		136–211	TBD
		212–213	2800K
		214–215	3000K
		216–217	3200K
		218–219	3400K
		220–221	3600K
		222–223	3800K
		224–225	4000K
		226–227	4200K
		228–229	4400K
		230–231	4600K
		232–233	4800K
		234–235	5000K
		236–237	5200K
		238–239	5400K
		240–241	5600K
		242–243	6000K
		244–245	6500K
		246–247	7000K
		248–249	8000K
		250–251	9000K
		252–253	10000K
		254–255	Full ON
9	Effects	0–10	No function
		11–60	Effect1
		61–110	Effect2
		111–160	Effect3

CH	Function	DMX	Description
9	Effects (continued)	161–210	Effect4
		211–255	Effect5 (1-4)
10	Effects Speed	0	Slow
		1–254	Slow ... Fast
		255	Fast
11	Control		Same as CH 9 in the mode “9ch” (p. 10)
12	Dimmer Mode		Same as CH 5 in the mode “5ch” (p. 10)

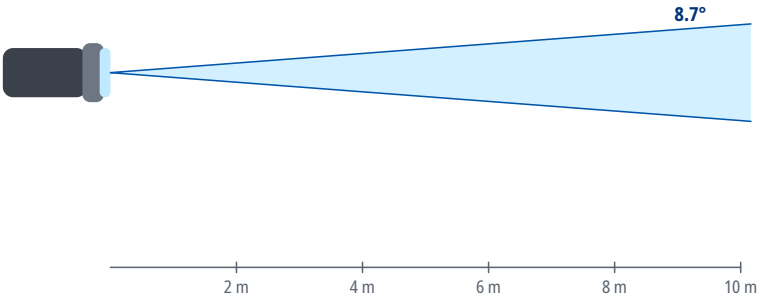
10 Technical specifications

Parameter	Value
Light source	LED
RDM	yes (manufacturer ID 0x15D0, device model ID 0xD083)
Weight	3 kg
Ingress protection	IP66
Meaning of the IP code (IEC 60529)	Dust-tight; protected against powerful water jets
Operating temperature	-20 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0.9–20 Hz
LED frequency	1–6 Hz

Spot diameter



Distance	Ø 8.7°
2 m	0.3 m
4 m	0.61 m
6 m	0.91 m
8 m	1.2 m
10 m	1.5 m
15 m	2.3 m

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

11 Maintenance and cleaning

- Before cleaning and maintenance, switch the device off, disconnect it from the power supply and let it cool down.
- Clean the housing with a soft, dry or slightly damp cloth. Do not use solvents, abrasive cleaners or pressure washers, and make sure no liquid gets into the device.
- Clean optical parts (lenses, front glass), if the device has any, with a soft lint-free cloth and a cleaner intended for optics or glass.
- Regularly inspect the housing, cables, connectors and fixings. Have damaged parts replaced by a service center.

- How often to clean depends on the environment; dust, smoke and fog make the device dirty much faster.

12 Troubleshooting

Problem	Remedy
The device does not switch on	Check the supply voltage, the cables and the fuse, if the device has one.
The device does not respond to DMX	Check the start address, the selected DMX mode and whether it matches the profile in the controller, the cable connection to DMX IN, and the controller output (universe).
The device behaves erratically or flickers	Check the terminator at the end of the line, the condition and wiring of the cables (shield on pin 1 only), the number of devices on the line (32 at most), and that the line is not split without a splitter.
Only some devices on the line respond	Check the cable and connectors between the last working and the first non-working device, and make sure all devices on the line are switched on.
Devices respond to the wrong channels or affect each other	Check that the addresses do not overlap and that the DMX mode on the devices matches the patch in the controller.
The device or the connected load does not light up although it receives DMX	Check the values of the dimmer, shutter and strobe channels against the DMX channel table. For the DMX modes for which the sources state it, the chapter DMX channels gives under the mode's heading which channels must be open.

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.