DMX REFERENCE

p2

AM1421XLET-402

Silver Star



Manufacturer	Silver Star
GDTF file	Silver_Star_p2_80712.gdtf
GDTF revision	AM1421XLET-402 · 2024-12-12
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1 About this manual

This document describes the AM1421XLET-402 by Silver Star. It was compiled from the GDTF file Silver_Star_p2_80712.gdtf from the GDTF-Share library.

File revision: “AM1421XLET-402”.

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 Silver Star; 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	1.7 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
ARC2	4	128	1, 5, 9, 13, ...
ARC1+D	4	128	1, 5, 9, 13, ...
ARC1	3	170	1, 4, 7, 10, ...
SOLID	1	512	1, 2, 3, 4, ...
ARC2+D	5	102	1, 6, 11, 16, ...
SPECIAL2	9	56	1, 10, 19, 28, ...
ARC FULL	9	56	1, 10, 19, 28, ...

No light? Check these channels

- ARC1+D: CH 1 Dimmer above 0
- SOLID: CH 1 Dimmer above 0
- ARC2+D: CH 1 Dimmer above 0
- SPECIAL2: CH 1 Dimmer above 0; CH 8 Shutter at 0–9, 100–109 or 180–189 “NO FUNCTION”
- ARC FULL: CH 1 Dimmer above 0; CH 7 Shutter at 0–9, 100–109 or 180–189 “NO FUNCTION”


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

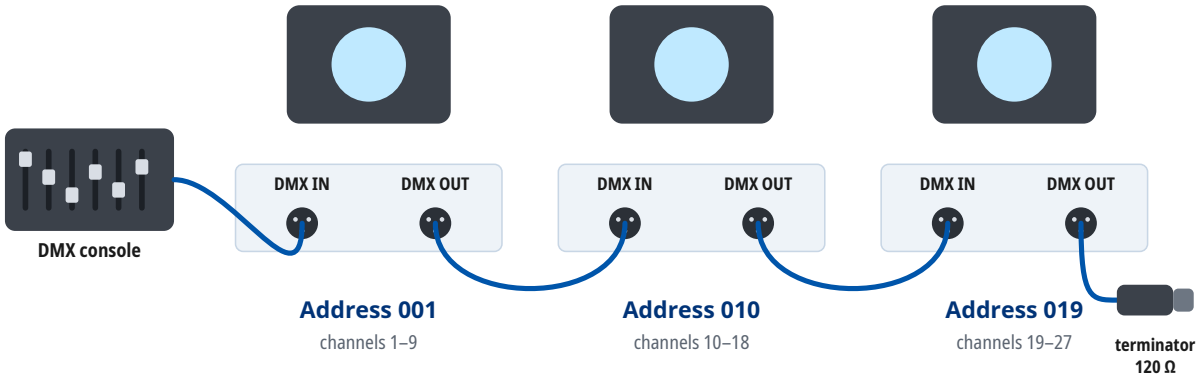
⚠ **WARNING**

- 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: 1.7 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 SPECIAL2: every unit occupies 9 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 “SPECIAL2”: 9.
- 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 “SPECIAL2”, you can use, for example, the start addresses 1, 10, 19, 28.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

7 Functions at a glance

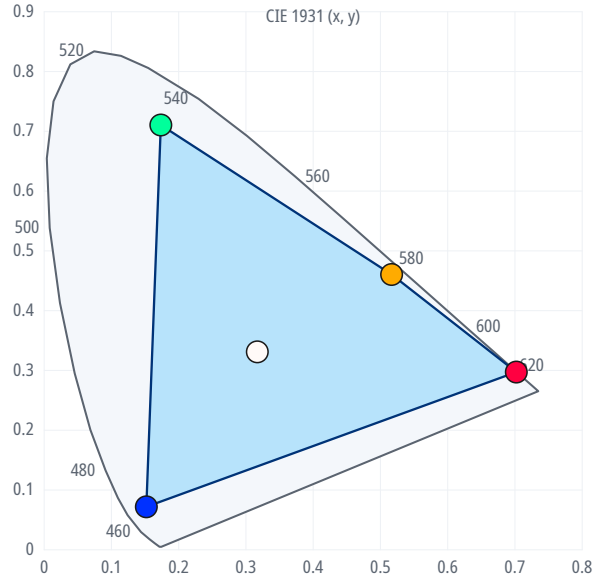
Functions in each DMX mode

	ARC2 4 channels	ARC1+D 4 channels	ARC1 3 channels	SOLID 1 channel	ARC2+D 5 channels	SPECIAL2 9 channels	ARC FULL 9 channels
Dimmer		1		1	1	1	1
Shutter / strobe						8	7
Color mixing	1–4	2–4	1–3		2–5	2–5	2–4
Color temperature						7	6
Color wheel						6	5

Color wheel

1 R40 DMX 16–20
2 L24 DMX 21–25
3 L164 DMX 26–40
4 L08 DMX 41–45
5 L25 DMX 46–55
6 L237 DMX 56–60
7 R321 DMX 61–65
8 L652 DMX 66–75
9 L765 DMX 76–80
10 L513 DMX 81–105
11 L90 DMX 106–115
12 R92 DMX 116–135
13 L728 DMX 136–140
14 L117 DMX 141–145
15 L354 DMX 146–155
16 L501 DMX 156–160
17 L174 DMX 161–180
18 L142 DMX 181–195
19 L794 DMX 196–200
20 L328 DMX 201–215
21 L127 DMX 216–220
22 L192 DMX 221–235
23 L157 DMX 236–240
24 R332 DMX 241–245
25 NO FUNCTION DMX 0–15

LED colors and the colors they mix

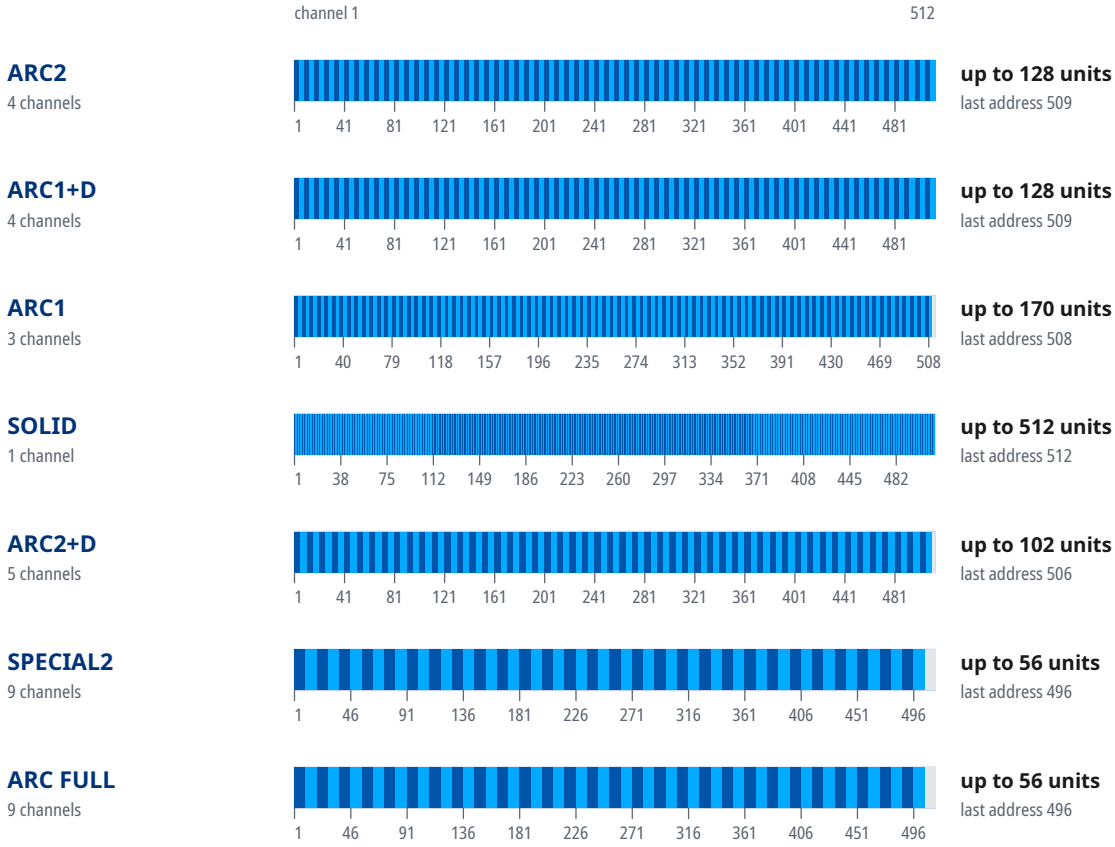


LED	x	y	nm
Red	0.702	0.297	626
Green	0.173	0.711	527
Blue	0.152	0.072	452
White	0.317	0.331	
Amber	0.517	0.461	

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

8 DMX channels

Units in one DMX universe



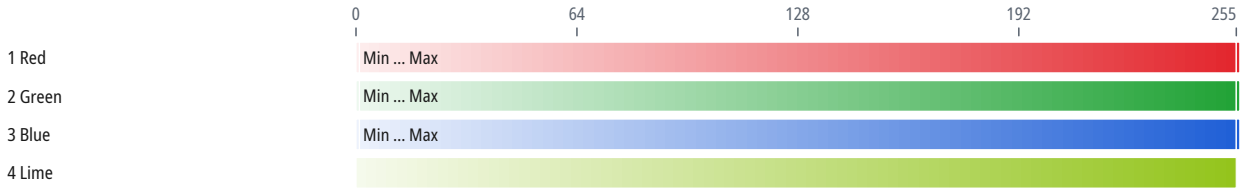
Start addresses of 20 units in the mode “SPECIAL2”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	46	11	91	16	136
2	10	7	55	12	100	17	145
3	19	8	64	13	109	18	154
4	28	9	73	14	118	19	163
5	37	10	82	15	127	20	172

Mode ARC2

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

Channel functions at a glance

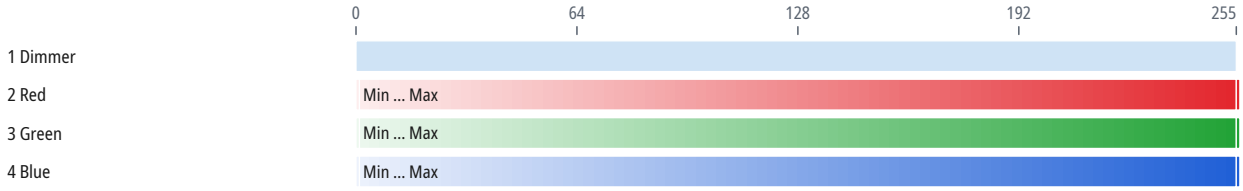


CH	Function	DMX	Description
1	Red	0	Min
		1–254	Min ... Max
		255	Max
2	Green	0	Min
		1–254	Min ... Max
		255	Max
3	Blue	0	Min
		1–254	Min ... Max
		255	Max
4	Lime	0–255	

Mode ARC1+D

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 2 Red 255, CH 3 Green 255, CH 4 Blue 255.

Channel functions at a glance

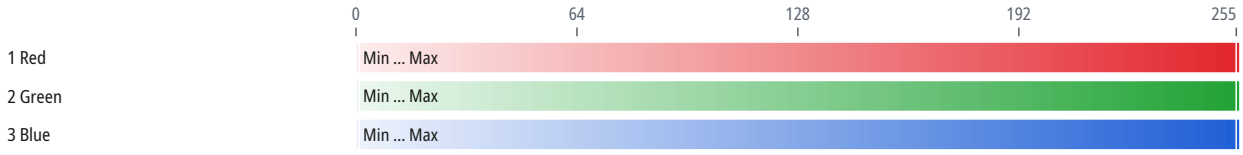


CH	Function	DMX	Description
1	Dimmer	0–255	
2	Red		Same as CH 1 in the mode “ARC2” (p. 9)
3	Green		Same as CH 2 in the mode “ARC2” (p. 9)
4	Blue		Same as CH 3 in the mode “ARC2” (p. 9)

Mode ARC1

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

Channel functions at a glance

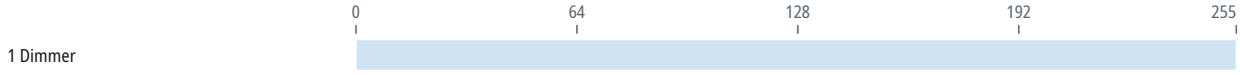


CH	Function	DMX	Description
1	Red		Same as CH 1 in the mode “ARC2” (p. 9)
2	Green		Same as CH 2 in the mode “ARC2” (p. 9)
3	Blue		Same as CH 3 in the mode “ARC2” (p. 9)

Mode SOLID

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

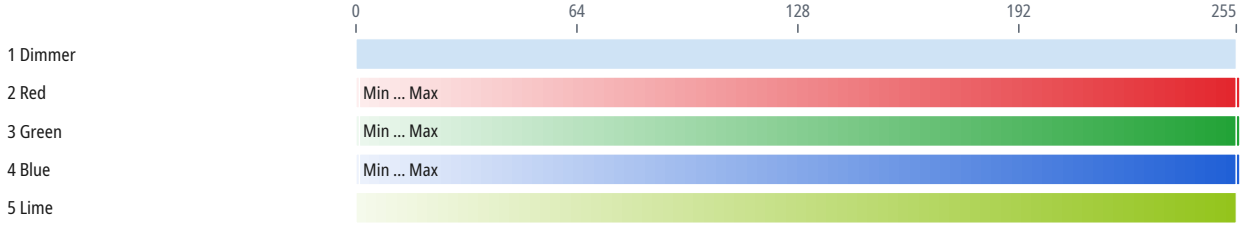


CH	Function	DMX	Description
1	Dimmer	0–255	

Mode ARC2+D

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 2 Red 255, CH 3 Green 255, CH 4 Blue 255.

Channel functions at a glance

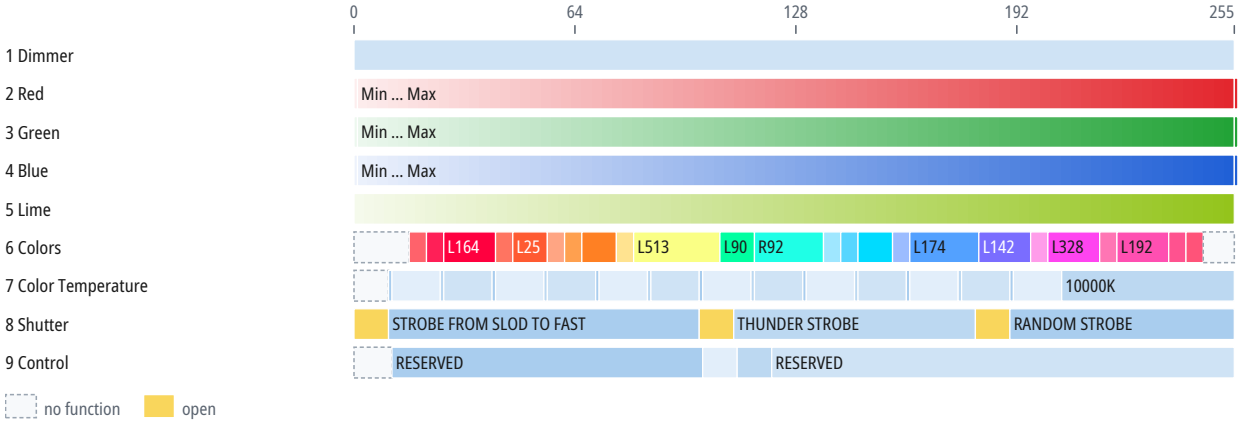


CH	Function	DMX	Description
1	Dimmer	0–255	
2	Red		Same as CH 1 in the mode “ARC2” (p. 9)
3	Green		Same as CH 2 in the mode “ARC2” (p. 9)
4	Blue		Same as CH 3 in the mode “ARC2” (p. 9)
5	Lime	0–255	

Mode SPECIAL2

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 8 Shutter at 0–9, 100–109 or 180–189 “NO FUNCTION”. The GDTF file gives these values for a console's Highlight function: CH 2 Red 255, CH 3 Green 255, CH 4 Blue 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0–255	
2	Red		Same as CH 1 in the mode “ARC2” (p. 9)
3	Green		Same as CH 2 in the mode “ARC2” (p. 9)
4	Blue		Same as CH 3 in the mode “ARC2” (p. 9)
5	Lime	0–255	
6	Colors	0–15	NO FUNCTION
		16–20	R40
		21–25	L24
		26–40	L164
		41–45	L08
		46–55	L25
		56–60	L237
		61–65	R321
		66–75	L652
		76–80	L765
		81–105	L513
		106–115	L90
		116–135	R92
		136–140	L728
		141–145	L117
		146–155	L354
		156–160	L501
		161–180	L174
		181–195	L142
		196–200	L794

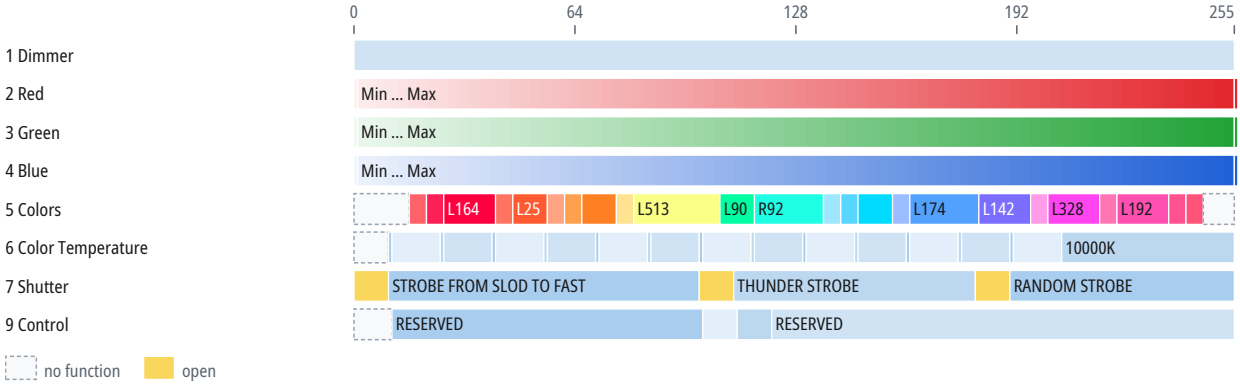
CH	Function	DMX	Description
6	Colors (continued)	201–215	L328
		216–220	L127
		221–235	L192
		236–240	L157
		241–245	R332
		246–255	NO FUNCTION
7	Color Temperature	0–9	NO FUNCTION
		10	1800K
		11–24	1800K … 2200K
		25	2200K
		26–39	2200K … 2700K
		40	2700K
		41–54	2700K … 3000K
		55	3000K
		56–69	3000K … 3200K
		70	3200K
		71–84	3200K … 4000K
		85	4000K
		86–99	4000K … 4500K
		100	4500K
		101–114	4500K … 5000K
		115	5000K
		116–129	5000K … 5600K
		130	5600K
		131–144	5600K … 6000K
		145	6000K
		146–159	6000K … 6500K
		160	6500K
		161–174	6500K … 7000K
		175	7000K
		176–189	7000K … 8000K
		190	8000K
		191–204	8000K … 10000K
		205–255	10000K
8	Shutter	0–9	Shutter 1: NO FUNCTION
		10–99	STROBE FROM SLOD TO FAST
		100–109	Shutter 1: NO FUNCTION
		110–179	THUNDER STROBE
		180–189	Shutter 1: NO FUNCTION
		190–255	RANDOM STROBE
9	Control	0–10	NO FUNCTION
		11–100	RESERVED

CH	Function	DMX	Description
9	Control (continued)	101–110	DIMMER OFF
		111–120	DIMMER DIM4
		121–255	RESERVED

Mode ARC FULL

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 7 Shutter at 0–9, 100–109 or 180–189 “NO FUNCTION”. The GDTF file gives these values for a console's Highlight function: CH 2 Red 255, CH 3 Green 255, CH 4 Blue 255.

Channel functions at a glance

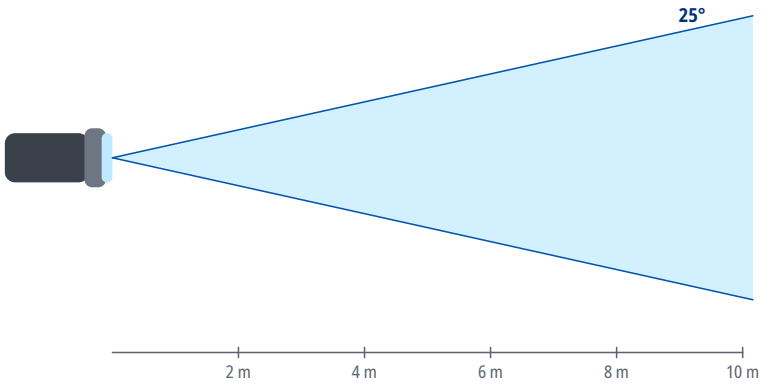


CH	Function	DMX	Description
1	Dimmer	0–255	
2	Red		Same as CH 1 in the mode “ARC2” (p. 9)
3	Green		Same as CH 2 in the mode “ARC2” (p. 9)
4	Blue		Same as CH 3 in the mode “ARC2” (p. 9)
5	Colors		Same as CH 6 in the mode “SPECIAL2” (p. 11)
6	Color Temperature		Same as CH 7 in the mode “SPECIAL2” (p. 12)
7	Shutter		Same as CH 8 in the mode “SPECIAL2” (p. 12)
9	Control		Same as CH 9 in the mode “SPECIAL2” (p. 12)

9 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	40 W
Luminous flux	900 lm
Color temperature	6,000 K
Color rendering index (CRI)	70
Optics	
Beam angle	25°
Control	
DMX connection	5-pin XLR IN/OUT
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	30 W
Power connectors	powerCON TRUE1 IN
Dimensions and construction	
Weight	1.7 kg
Operating environment	
Operating temperature	-20 to 45 °C

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.