DMX REFERENCE

Xpression 350 C6

Leding

Manufacturer	Leding
GDTF file	Leding_Xpression_350_C6_140357.gdtf
GDTF revision	v001 · 2026-04-27
Generated	2026-11-24

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1 About this manual

This document describes the Xpression 350 C6 by Leding. It was compiled from the GDTF file Leding_Xpression_350_C6_140357.gdtf from the GDTF-Share library.

File revision: “v001”.

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 Leding; 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	8.8 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Basic	3	170	1, 4, 7, 10, ...
SSP	8	64	1, 9, 17, 25, ...
Tour	13	39	1, 14, 27, 40, ...
TR16	20	25	1, 21, 41, 61, ...
HSIC	7	73	1, 8, 15, 22, ...
CMY	10	51	1, 11, 21, 31, ...

No light? Check these channels

- Basic: CH 1 Dimmer above 0
- SSP: CH 1 Dimmer above 0; CH 8 Shutter at 0–9, 100–109 or 180–189 “Open”
- Tour: CH 1 Dimmer above 0; CH 12 Shutter at 0–9, 100–109 or 180–189 “Open”
- TR16: CH 1 Dimmer above 0; CH 19 Shutter at 0–9, 100–109 or 180–189 “Open”
- HSIC: CH 1 Dimmer above 0; CH 6 Shutter at 0–9, 100–109 or 180–189 “Open”
- CMY: CH 1 Dimmer above 0; CH 9 Shutter at 0–9, 100–109 or 180–189 “Open”


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

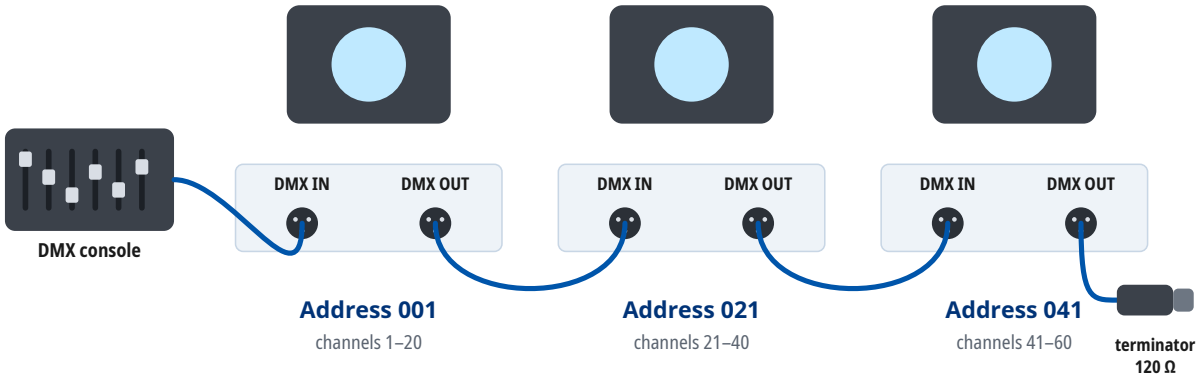
⚠ **WARNING**

- 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: 8.8 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 TR16: every unit occupies 20 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

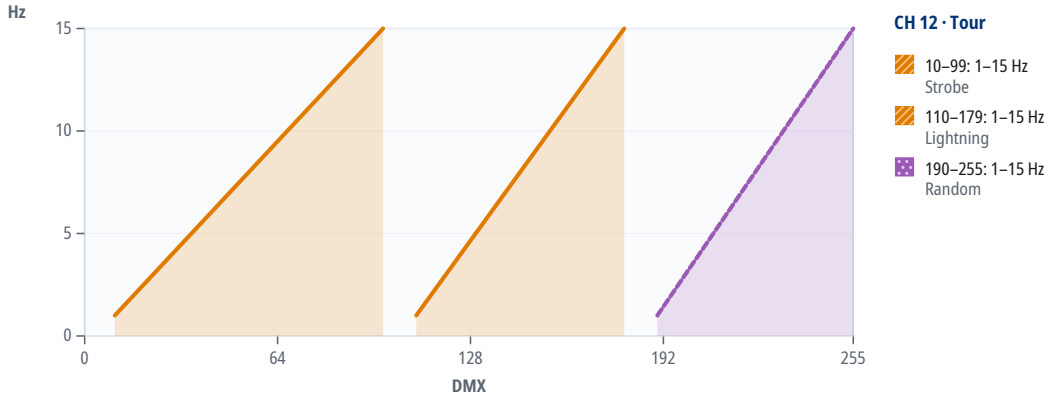
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “TR16”: 20.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “TR16”, you can use, for example, the start addresses 1, 21, 41, 61.
- 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.

7 Functions at a glance

Functions in each DMX mode

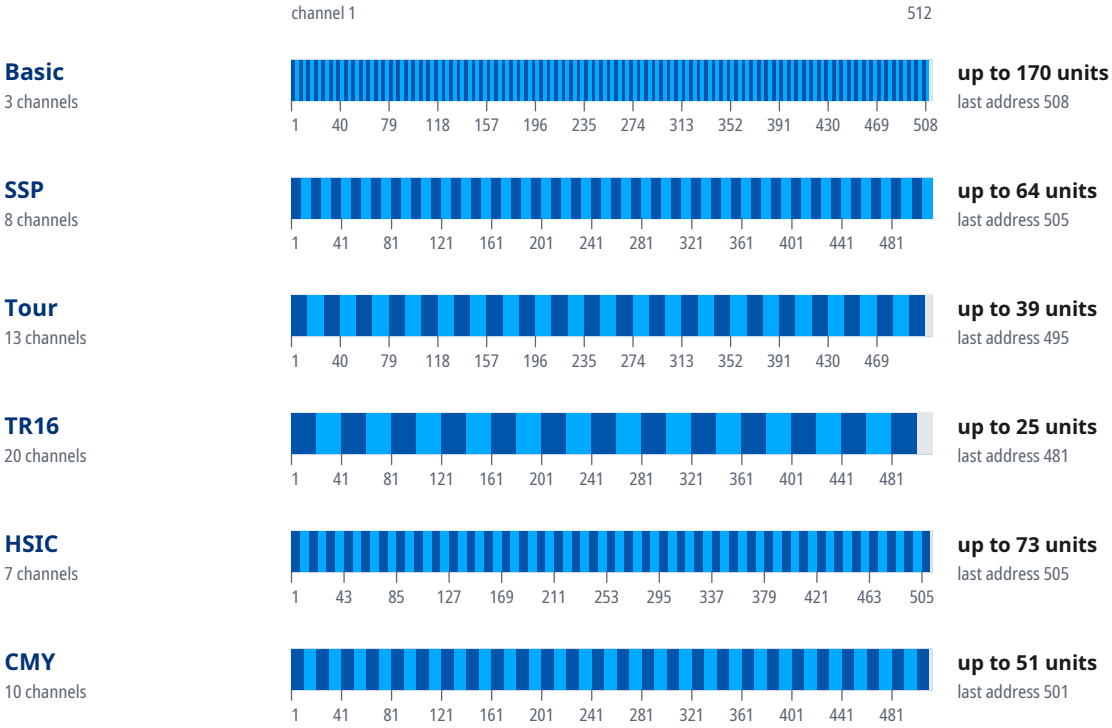
	Basic 3 channels	SSP 8 channels	Tour 13 channels	TR16 20 channels	HSIC 7 channels	CMY 10 channels
Dimmer	1	1	1	1	1	1
Dimmer resolution	8 bit	8 bit	8 bit	16 bit	8 bit	8 bit
Shutter / strobe		8	12	19	6	9
Color mixing		2–7	2–7	6× (3–13)		2–4
Color temperature	3		9	16	5	6
Effects / macros	2		8, 10, 11	15, 17, 18		5, 7, 8

Strobe rate



8 DMX channels

Units in one DMX universe



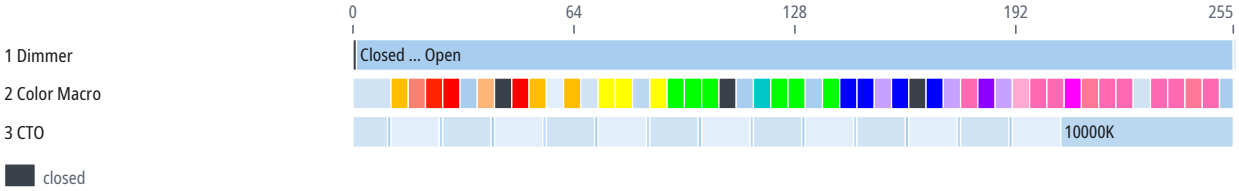
Start addresses of 20 units in the mode “TR16”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	101	11	201	16	301
2	21	7	121	12	221	17	321
3	41	8	141	13	241	18	341
4	61	9	161	14	261	19	361
5	81	10	181	15	281	20	381

Mode Basic

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, CH 2 Color Macro 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0	Closed
		1–254	Closed ... Open
		255	Open
2	Color Macro	0–10	Open
		11–15	L176 Loving Amber
		16–20	R40 Light Salmon
		21–25	L24 Scarlet
		26–30	L164 Flame Red
		31–35	L747 Easy White
		36–40	R303 Warm Peach
		41–45	L08 Dark Salmon
		46–50	L25 Sunset Red
		51–55	L04 Medium Bastard Amber
		56–60	L237 CID (To Tungsten)
		61–65	R321 Soft Golden Amber
		66–70	L652 Urban Sodium
		71–75	L212 LCT Yellow(Y1)
		76–80	L765 LEE Yellow
		81–85	L513 Ice and a Slice
		86–90	L100 Spring Yellow
		91–95	L244 LEE Plus Green
		96–100	R4430 Cal Colour 30 Green
		101–105	L122 Fern Green
		106–110	L90 Dark Yellow Green
		111–115	L243 LEE Fluorescent 3600K
		116–120	R92 Turquoise
		121–125	R94 Kelly Green
		126–130	L327 Forest Green
		131–135	L191 Cosmetic Aqua Blue
		136–140	L728 Steel Green
		141–145	L117 Steel Blue

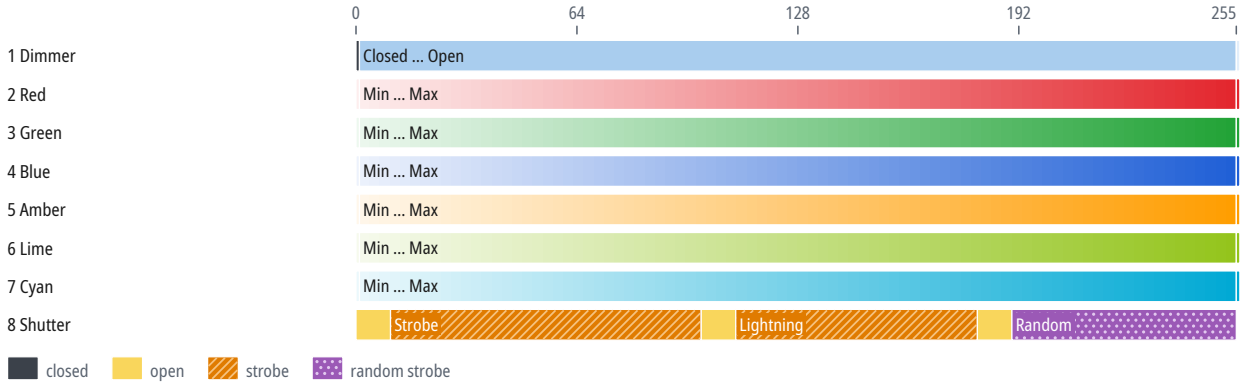
CH	Function	DMX	Description
2	Color Macro (continued)	146–150	L354 Special Steel Blue
		151–155	L53 Paler Lavender
		156–160	L501 New Colour Blue
		161–165	L174 Dark Steel Blue
		166–170	L165 Daylight Blue
		171–175	L136 Pale Lavender
		176–180	L194 Surprise Pink
		181–185	L142 Pale Violet
		186–190	L700 Perfect Lavender
		191–195	L35 Light Pink
		196–200	L794 Pretty'n Pink
		201–205	L328 Follies Pink
		206–210	L795 Magical Magenta
		211–215	L154 Pale Rose
		216–220	L127 Smokey Pink
		221–225	L192 Flesh Pink
		226–230	L332 Special Rose Pink
		231–235	L790 Moroccan Pink
		236–240	L157 Pink
		241–245	R332 Cherry Rose
		246–250	L128 Cool LED Bright Pink
		251–255	Open
3	CTO	0–9	Open
		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

CH	Function	DMX	Description
3	CTO (continued)	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

Mode SSP

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 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Red 255, CH 3 Green 255, CH 4 Blue 255, CH 5 Amber 255, CH 6 Lime 255, CH 7 Cyan 255.

Channel functions at a glance



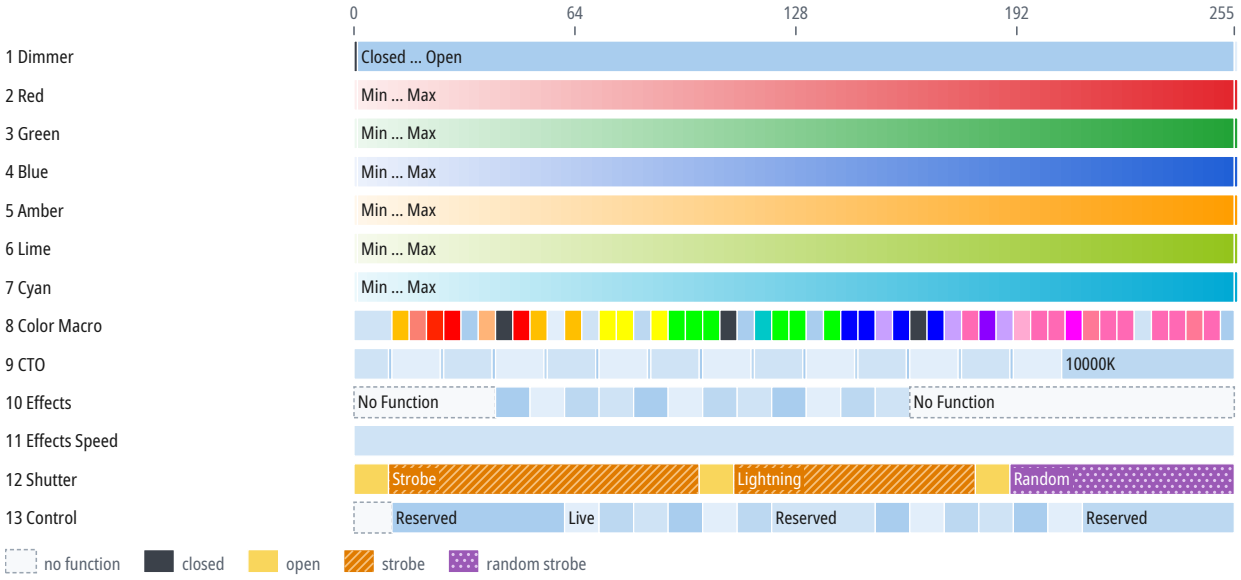
CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Basic” (p. 8)
2	Red	0	Min
		1–254	Min ... Max
		255	Max
3	Green	0	Min
		1–254	Min ... Max
		255	Max
4	Blue	0	Min
		1–254	Min ... Max
		255	Max
5	Amber	0	Min
		1–254	Min ... Max
		255	Max
6	Lime		Color Add_W 1
		0	Min
		1–254	Min ... Max

CH	Function	DMX	Description
6	Lime (continued)	255	Max
7	Cyan	0	Min
		1–254	Min ... Max
		255	Max
8	Shutter	0–9	Shutter 1: Open
		10–99	Strobe (1–15 Hz)
		100–109	Shutter 1: Open
		110–179	Lightning (1–15 Hz)
		180–189	Shutter 1: Open
		190–255	Random (1–15 Hz)

Mode Tour

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 12 Shutter at 0–9, 100–109 or 180–189 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Red 255, CH 3 Green 255, CH 4 Blue 255, CH 5 Amber 255, CH 6 Lime 255, CH 7 Cyan 255, CH 8 Color Macro 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Basic” (p. 8)
2	Red		Same as CH 2 in the mode “SSP” (p. 10)
3	Green		Same as CH 3 in the mode “SSP” (p. 10)
4	Blue		Same as CH 4 in the mode “SSP” (p. 10)
5	Amber		Same as CH 5 in the mode “SSP” (p. 10)
6	Lime		Same as CH 6 in the mode “SSP” (p. 10)
7	Cyan		Same as CH 7 in the mode “SSP” (p. 11)
8	Color Macro		Same as CH 2 in the mode “Basic” (p. 8)
9	CTO		Same as CH 3 in the mode “Basic” (p. 9)
10	Effects	0–40	No Function

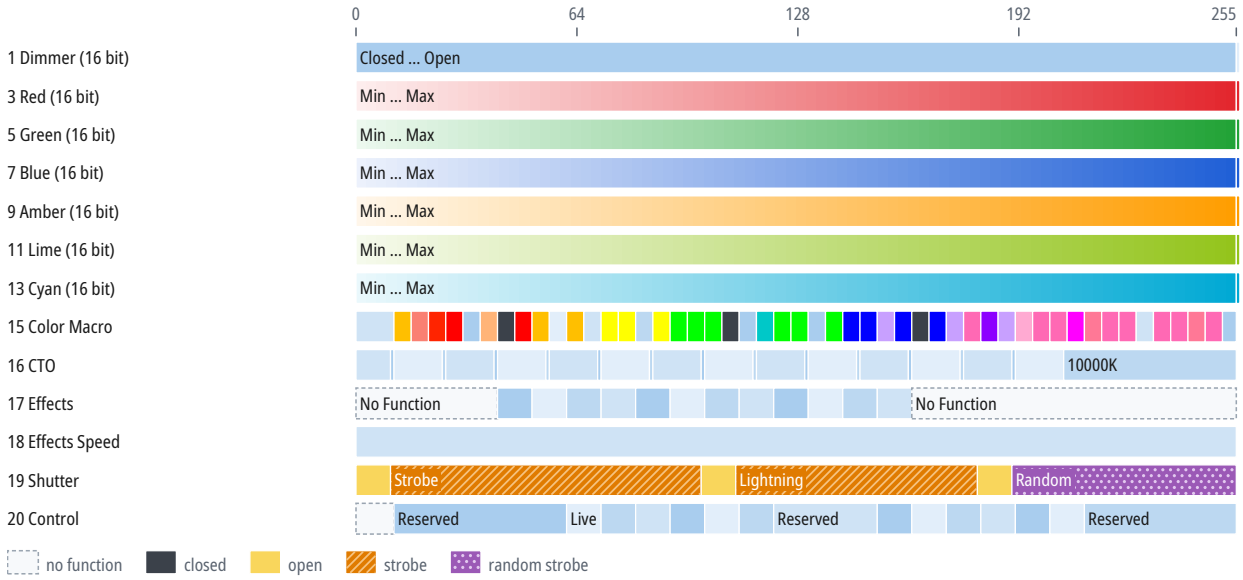
CH	Function	DMX	Description
10	Effects (continued)	41–50	Auto Show 1
		51–60	Auto Show 2
		61–70	Auto Show 3
		71–80	Auto Show 4
		81–90	Auto Show 5
		91–100	Auto Show 6
		101–110	Auto Show 7
		111–120	Auto Show 8
		121–130	Auto Show 9
		131–140	Auto Show 10
		141–150	Program 1
		151–160	Program 2
		161–255	No Function
11	Effects Speed	0–255	
12	Shutter		Same as CH 8 in the mode “SSP” (p. 11)
13	Control	0–10	No Function
		11–60	Reserved
		61–70	Live
		71–80	Studio
		81–90	Power
		91–100	Reserved
		101–110	Dimmer Off
		111–120	Dimmer Mode
		121–150	Reserved
		151–160	1200Hz
		161–170	2400Hz
		171–180	4000Hz
		181–190	6000Hz
		191–200	25000Hz
		201–210	Reset Fixture
		211–255	Reserved

Mode TR16

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 19 Shutter at 0–9, 100–109 or 180–189 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 3 Red 255, CH 5 Green 255, CH 7 Blue 255, CH 9 Amber 0, CH 11 Lime 0, CH 13 Cyan 0, CH 15 Color Macro 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	Red	0–255	Min ... Max
		255	Max
4	Red Fine	0–255	Fine adjustment of CH 3
5	Green	0–255	Min ... Max
		255	Max
6	Green Fine	0–255	Fine adjustment of CH 5
7	Blue	0–255	Min ... Max
		255	Max
8	Blue Fine	0–255	Fine adjustment of CH 7
9	Amber	0–255	Min ... Max
		255	Max
10	Amber Fine	0–255	Fine adjustment of CH 9
11	Lime		Color Add_W 1
		0–255	Min ... Max
		255	Max
12	Lime Fine	0–255	Fine adjustment of CH 11
13	Cyan	0–255	Min ... Max

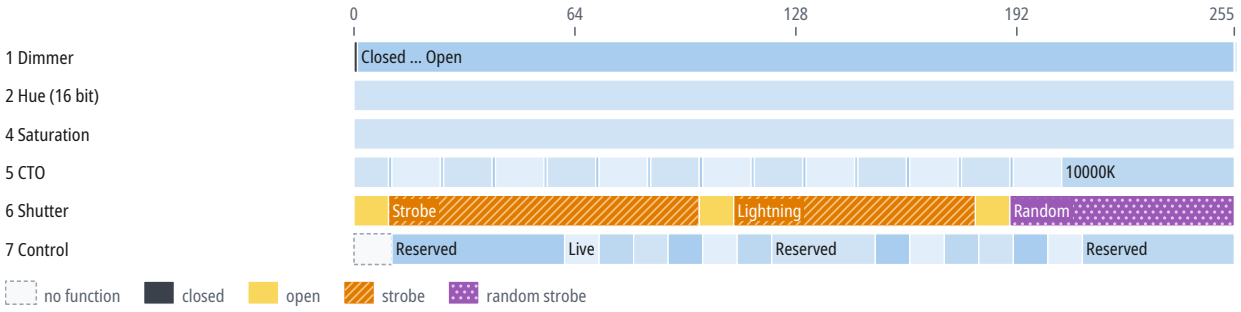
CH	Function	DMX	Description
13	Cyan (continued)	255	Max
14	Cyan Fine	0–255	Fine adjustment of CH 13
15	Color Macro		Same as CH 2 in the mode “Basic” (p. 8)
16	CTO		Same as CH 3 in the mode “Basic” (p. 9)
17	Effects		Same as CH 10 in the mode “Tour” (p. 11)
18	Effects Speed	0–255	
19	Shutter		Same as CH 8 in the mode “SSP” (p. 11)
20	Control		Same as CH 13 in the mode “Tour” (p. 12)

Mode HSIC

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 6 Shutter at 0–9, 100–109 or 180–189 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255.

Channel functions at a glance

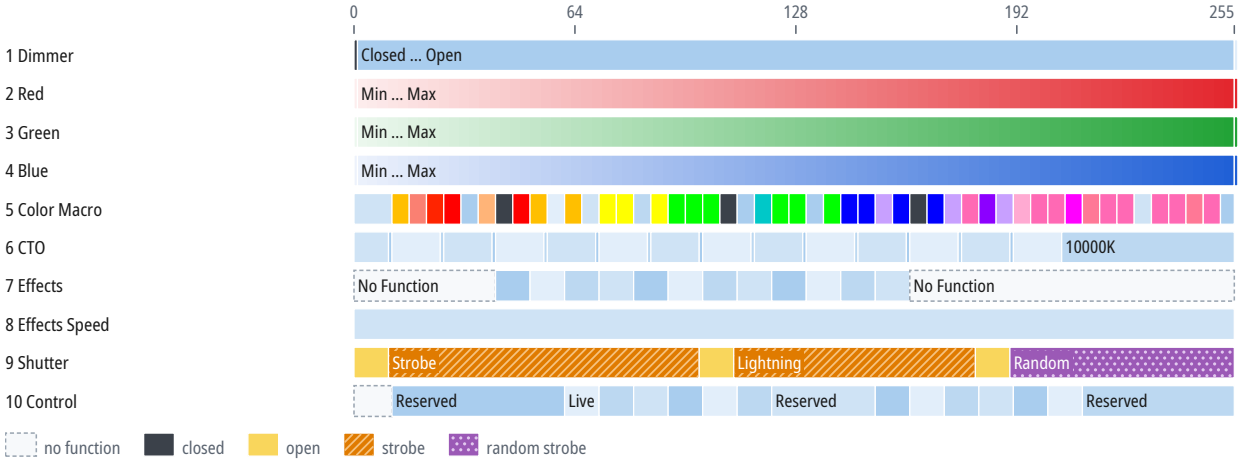


CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Basic” (p. 8)
2	Hue	0–255	
3	Hue Fine	0–255	Fine adjustment of CH 2
4	Saturation	0–255	
5	CTO		Same as CH 3 in the mode “Basic” (p. 9)
6	Shutter		Same as CH 8 in the mode “SSP” (p. 11)
7	Control		Same as CH 13 in the mode “Tour” (p. 12)

Mode CMY

If the device receives DMX in this mode but gives no light, check these channels: CH 1 Dimmer above 0; CH 9 Shutter at 0–9, 100–109 or 180–189 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Red 0, CH 3 Green 0, CH 4 Blue 0, CH 5 Color Macro 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Basic” (p. 8)
2	Red		Color Sub_C 1
		0	Min
		1–254	Min ... Max
		255	Max
3	Green		Color Sub_M 1
		0	Min
		1–254	Min ... Max
		255	Max
4	Blue		Color Sub_Y 1
		0	Min
		1–254	Min ... Max
		255	Max
5	Color Macro		Same as CH 2 in the mode “Basic” (p. 8)
6	CTO		Same as CH 3 in the mode “Basic” (p. 9)
7	Effects		Same as CH 10 in the mode “Tour” (p. 11)
8	Effects Speed	0–255	
9	Shutter		Same as CH 8 in the mode “SSP” (p. 11)
10	Control		Same as CH 13 in the mode “Tour” (p. 12)

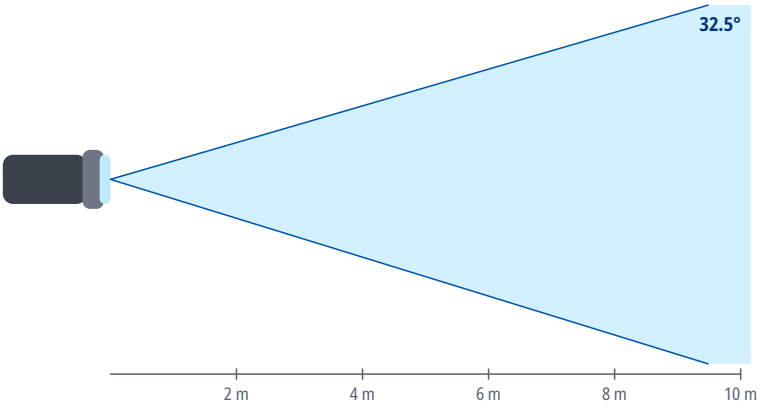
9 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	1,000 W
Luminous flux	10,000 lm
Color temperature	6,000 K
Color rendering index (CRI)	100
Optics	
Beam angle	32.5°
Control	
RDM	yes (manufacturer ID 0x06CA, device model ID 0x3107)
Dimensions and construction	
Weight	8.8 kg
Operating environment	
Operating temperature	0 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	1–15 Hz

Spot diameter



Distance	Ø 32.5°
2 m	1.2 m
4 m	2.3 m
6 m	3.5 m
8 m	4.7 m
10 m	5.8 m
15 m	8.7 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.