DMX REFERENCE

Fresnel Led 50W

LPL



Manufacturer	LPL
GDTF file	LPL_Fresnel_Led_50W_109024.gdtf
GDTF revision	Rev1_0 · 2025-08-29
Generated	2026-11-24

Contents

1 About this manual 2
2 Quick reference 3
3 Safety instructions 4
4 Product description 5
5 Installation 5
6 Connections 5
7 Operation 6
8 Functions at a glance 6
9 DMX channels 7
Mode Dimmer 8
Mode Dimmer 16bit 8
Mode 3CH 9
Mode Standard 11
Mode Extended 11
10 Technical specifications 13
11 Maintenance and cleaning 14
12 Troubleshooting 14
13 Disposal 15

1 About this manual

This document describes the Fresnel Led 50W by LPL. It was compiled from the GDTF file LPL_Fresnel_Led_50W_109024.gdtf from the GDTF-Share library.

File revision: “Rev1_0”.

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 LPL; 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	15.8 kg
Ingress protection	IP65

DMX modes

Mode	Channels	Units in one universe	First start addresses
Dimmer	1	512	1, 2, 3, 4, ...
Dimmer 16bit	2	256	1, 3, 5, 7, ...
3CH	3	170	1, 4, 7, 10, ...
Standard	4	128	1, 5, 9, 13, ...
Extended	5	102	1, 6, 11, 16, ...

No light? Check these channels

- 3CH: CH 2 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”
- Standard: CH 3 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”
- Extended: CH 3 Shutter at 32–63, 96–127, 160–191 or 224–255 “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 IP65 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

“Fresnel Led 50W 3,000K >97CRI Warm White LED fresnel, producing over 1,900 total lumen output, on par with compatible tungsten halogen models. Features include 14° to 30° wide manual zoom, manual and DMX controlled dimmer and shutter, rotary dimmer and zoom dials, smooth 16-bit selectable dimming modes and curves, LED refresh rate frequency adjustment for flicker free operation for TV and FILM, RDM (remote device management) protocol support, 5pin DMX and IP65 Locking Power Cable in/out connections, 4 button control panel, LCD menu display, multiple unit power linking, a universal auto switching power supply (100-240v), gel frame and rotating barn doors (included), and a 3 clamp position adjustable mounting yoke.”

5 Installation

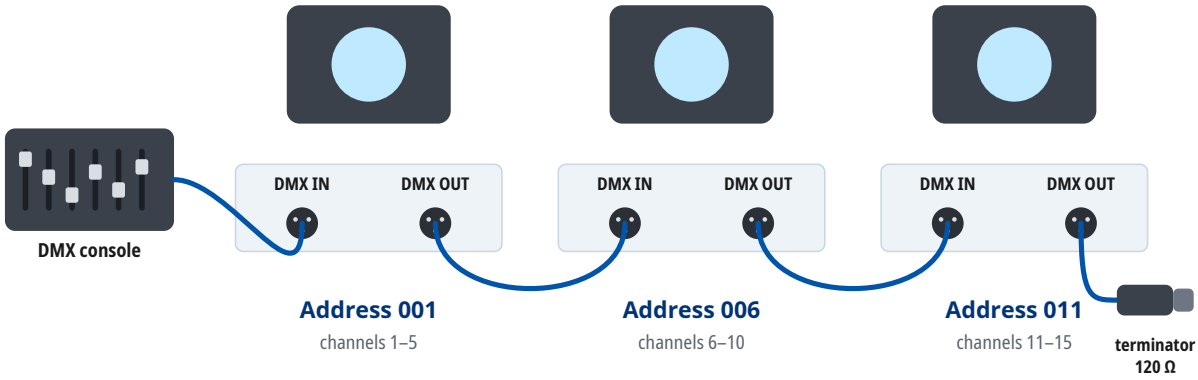
⚠ **WARNING**

- 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: 15.8 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.

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 Extended: every unit occupies 5 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

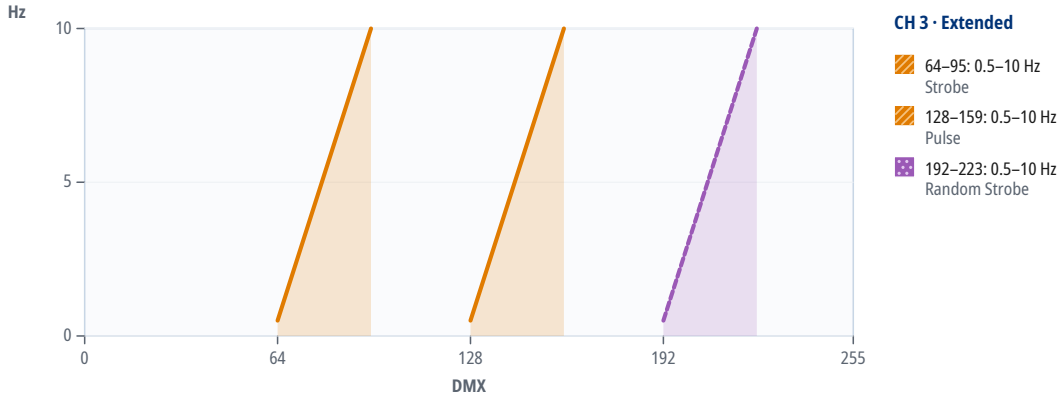
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Extended”: 5.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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 “Extended”, you can use, for example, the start addresses 1, 6, 11, 16.
- 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

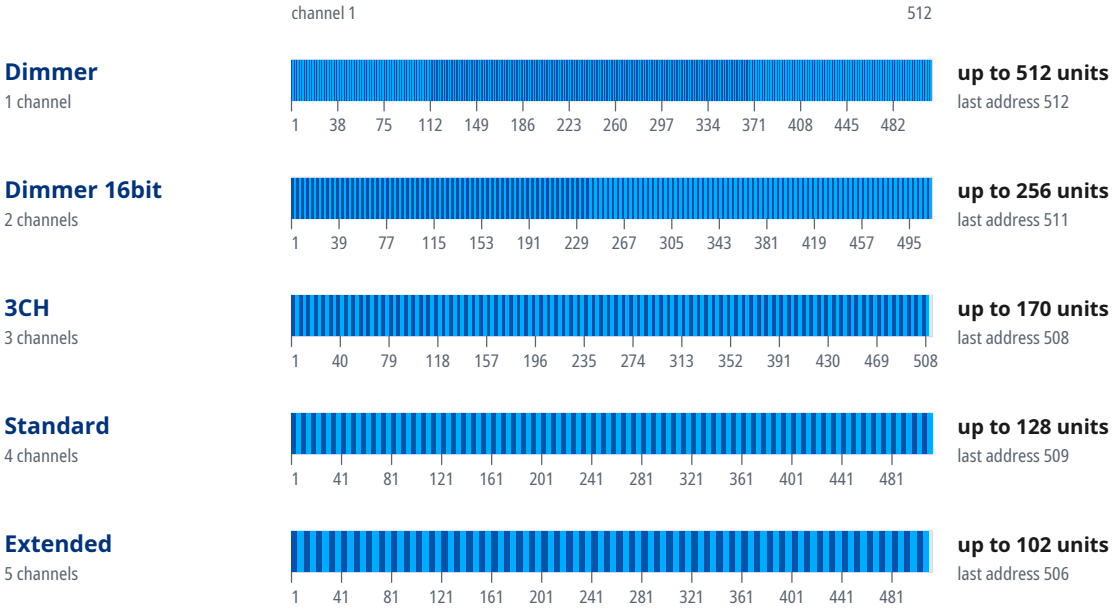
	Dimmer 1 channel	Dimmer 16bit 2 channels	3CH 3 channels	Standard 4 channels	Extended 5 channels
Dimmer	1	1	1	1	1
Dimmer resolution	8 bit	16 bit	8 bit	16 bit	16 bit
Shutter / strobe			2	3	3

Strobe rate



9 DMX channels

Units in one DMX universe



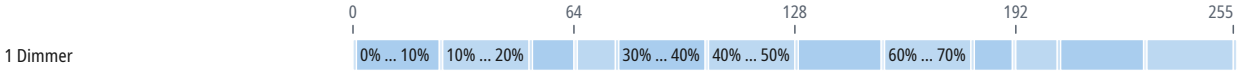
Start addresses of 20 units in the mode “Extended”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	26	11	51	16	76
2	6	7	31	12	56	17	81
3	11	8	36	13	61	18	86
4	16	9	41	14	66	19	91
5	21	10	46	15	71	20	96

Mode Dimmer

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

Channel functions at a glance



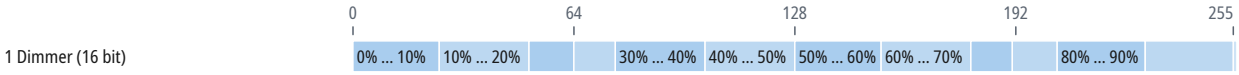
CH	Function	DMX	Description
1	Dimmer	0	0%
		1–24	0% … 10%
		25	10%
		26–50	10% … 20%
		51	20%
		52–63	20% … 25%
		64	25%
		65–75	25% … 30%
		76	30%
		77–101	30% … 40%
		102	40%
		103–127	40% … 50%
		128	50%
		129–152	50% … 60%
		153	60%
		154–178	60% … 70%
		179	70%
		180–190	70% … 75%
		191	75%
		192–203	75% … 80%
		204	80%
		205–228	80% … 90%
		229	90%
		230–254	90% … 100%
		255	100%

Mode Dimmer 16bit

16-bit parameters use two channels, coarse and fine: value = 256 × coarse value + fine value.

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

Channel functions at a glance

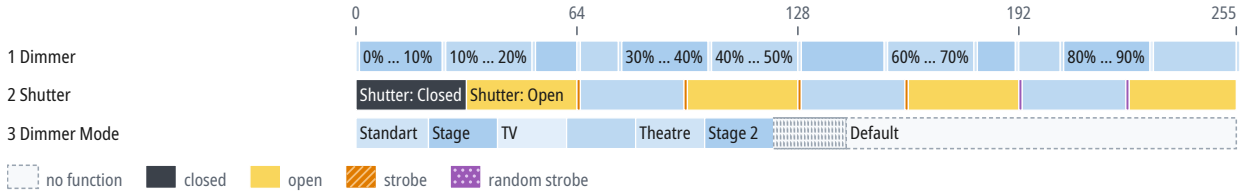


CH	Function	DMX	Description
1	Dimmer	0–25	0% … 10%
		25–51	10% … 20%
		51–64	20% … 25%
		64–76	25% … 30%
		76–102	30% … 40%
		102–128	40% … 50%
		128–153	50% … 60%
		153–179	60% … 70%
		179–191	70% … 75%
		191–204	75% … 80%
		204–230	80% … 90%
		230–255	90% … 100%
		255	100%
2	Dimmer Fine	0–255	Fine adjustment of CH 1

Mode 3CH

If the device receives DMX in this mode but gives no light, check these channels: CH 2 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 2 Shutter 32.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer	0	0%
		1–24	0% … 10%
		25	10%
		26–50	10% … 20%
		51	20%
		52–63	20% … 25%
		64	25%
		65–75	25% … 30%
		76	30%
		77–101	30% … 40%
		102	40%
		103–127	40% … 50%
		128	50%
		129–152	50% … 60%

CH	Function	DMX	Description
1	Dimmer (continued)	153	60%
		154–178	60% … 70%
		179	70%
		180–190	70% … 75%
		191	75%
		192–203	75% … 80%
		204	80%
		205–229	80% … 90%
		230	90%
		231–254	90% … 100%
		255	100%
2	Shutter	0–31	Shutter: Closed
		32–63	Shutter: Open
		64	Strobe Min
		65–94	Strobe Min … Strobe Max
		95	Strobe Max
		96–127	Shutter Open: Open
		128	Strobe Pulse Min
		129–158	Strobe Pulse Min … Strobe Pulse Max
		159	Strobe Pulse Max
		160–191	Shutter Open_: Open
		192	Random Strobe Min
		193–222	Random Strobe Min … Random Strobe Max
		223	Random Strobe Max
		224–255	Shutter Open__: Open
3	Dimmer Mode	0–20	Standart
		21–40	Stage
		41–60	TV
		61–80	Architectural
		81–100	Theatre
		101–120	Stage 2
		121	0s Delay
		122	0/1s Delay
		123	0/2s Delay
		124	0/3s Delay
		125	0/4s Delay
		126	0/5s Delay
		127	0/6s Delay
		128	0/7s Delay
		129	0/8s Delay
		130	0/9s Delay

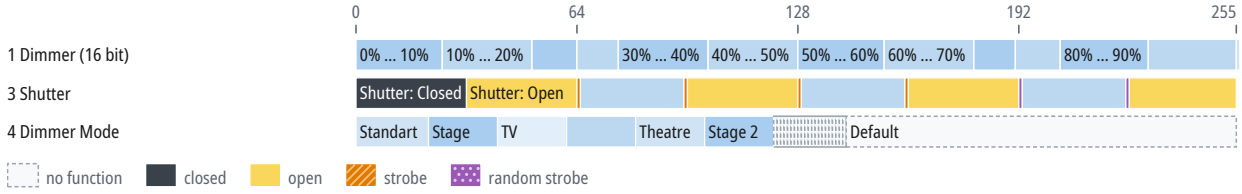
CH	Function	DMX	Description
3	Dimmer Mode (continued)	131	1s Delay
		132	1/5s Delay
		133–141	2...10s Delay
		142–255	Default

Mode Standard

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 3 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 3 Shutter 32.

Channel functions at a glance



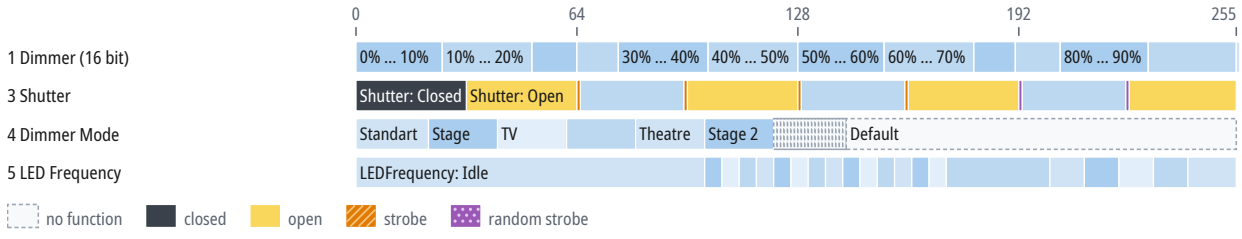
CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Dimmer 16bit” (p. 9)
2	Dimmer Fine	0–255	Fine adjustment of CH 1
3	Shutter		Same as CH 2 in the mode “3CH” (p. 10)
4	Dimmer Mode		Same as CH 3 in the mode “3CH” (p. 10)

Mode Extended

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 3 Shutter at 32–63, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 1 Dimmer 255, CH 3 Shutter 32.

Channel functions at a glance



CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “Dimmer 16bit” (p. 9)
2	Dimmer Fine	0–255	Fine adjustment of CH 1
3	Shutter		Same as CH 2 in the mode “3CH” (p. 10)
4	Dimmer Mode		Same as CH 3 in the mode “3CH” (p. 10)
5	LED Frequency	0–100	LEDFrequency: Idle

CH	Function	DMX	Description
5	LED Frequency (continued)	101–105	900 Hz
		106–110	1000 Hz
		111–115	1100 Hz
		116–120	1200 Hz
		121–125	1300 Hz
		126–130	1400 Hz
		131–135	1500 Hz
		136–140	2500 Hz
		141–145	4000 Hz
		146–150	5000 Hz
		151–155	10000 Hz
		156–160	15000 Hz
		161–165	20000 Hz
		166–170	25000 Hz
		171–200	Dimmer Curve: Idle
		201–210	Curve Linear (default)
		211–220	Curve Square
		221–230	Curve Inverse Square
		231–240	Curve S-Curve
		241–255	Dimmer Curve: Idle

10 Technical specifications

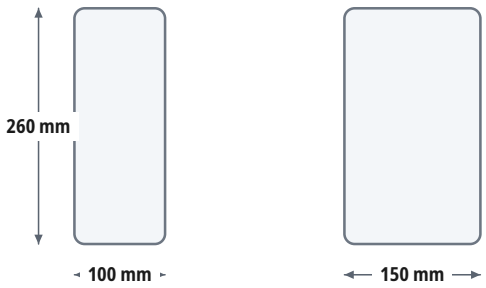
Parameter	Value
Light	
Light source	LED
LED power	50 W
Luminous flux	2,107.7 lm
Color temperature	3,000 K
Color rendering index (CRI)	97
Optics	
Beam angle	14°
Control	
DMX connection	5-pin XLR IN/OUT, 3-pin XLR IN/OUT
RDM	yes (manufacturer ID 0x22A6, device model ID 0x0735)
Electrical	
Power connectors	powerCON TRUE1 IN, powerCONTRUE1TOP OUT
Dimensions and construction	
Weight	15.8 kg
Operating environment	
Ingress protection	IP65
Meaning of the IP code (IEC 60529)	Dust-tight; protected against water jets
Operating temperature	-15 to 45 °C

Speeds and ranges

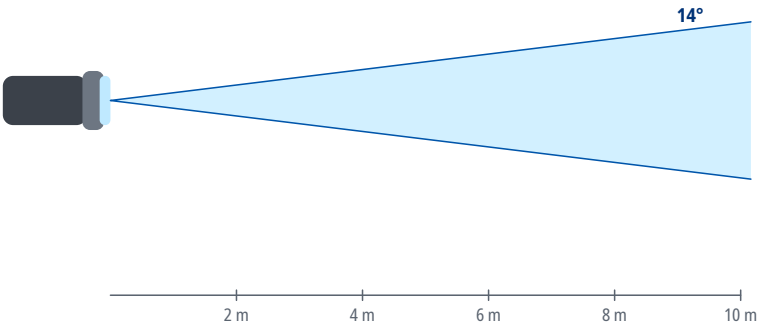
Parameter	Value
Strobe frequency	0.5–10 Hz
LED frequency	900–25000 Hz

Dimensions

weight 15.8 kg



Spot diameter



Distance	Ø 14°
2 m	0.49 m
4 m	0.98 m
6 m	1.5 m
8 m	2 m
10 m	2.5 m
15 m	3.7 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.