DMX REFERENCE

L600D

Profoto



Manufacturer	Profoto
GDTF file	Profoto_L600D_132254.gdtf
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1 About this manual

This document describes the L600D by Profoto. It was compiled from the GDTF file Profoto_L600D_132254.gdtf from the GDTF-Share library.

File revision: “Rev_A6, 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.

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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	690 W
Weight	5.9 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
P01 - 8 Bit Dimmer	1	512	1, 2, 3, 4, ...
P02 - 16 Bit Dimmer	2	256	1, 3, 5, 7, ...
P03 - 8 Bit Dimmer with Device Control	3	170	1, 4, 7, 10, ...
P04 - 16 Bit Dimmer with Device Control	4	128	1, 5, 9, 13, ...
P22 - 8 Bit Effects	10	51	1, 11, 21, 31, ...
P31 - Flex profile	1	512	1, 2, 3, 4, ...

No light? Check these channels

- P01 - 8 Bit Dimmer: CH 1 Dimmer above 0
- P02 - 16 Bit Dimmer: CH 1 Dimmer above 0
- P03 - 8 Bit Dimmer with Device Control: CH 1 Dimmer above 0
- P04 - 16 Bit Dimmer with Device Control: CH 1 Dimmer above 0
- P22 - 8 Bit Effects: CH 1 Dimmer above 0


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.

4 Installation

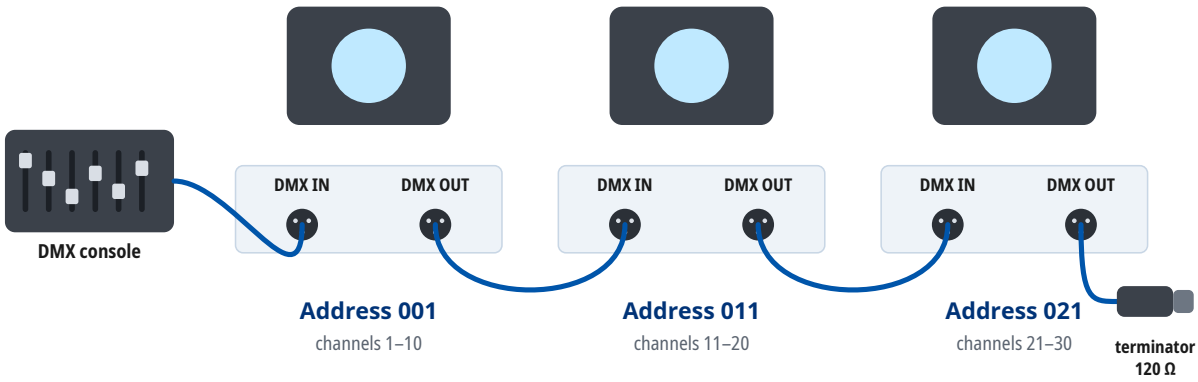
⚠ WARNING

- 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: 5.9 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 P22 - 8 Bit Effects: every unit occupies 10 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 “P22 - 8 Bit Effects”: 10.
- 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 “P22 - 8 Bit Effects”, you can use, for example, the start addresses 1, 11, 21, 31.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

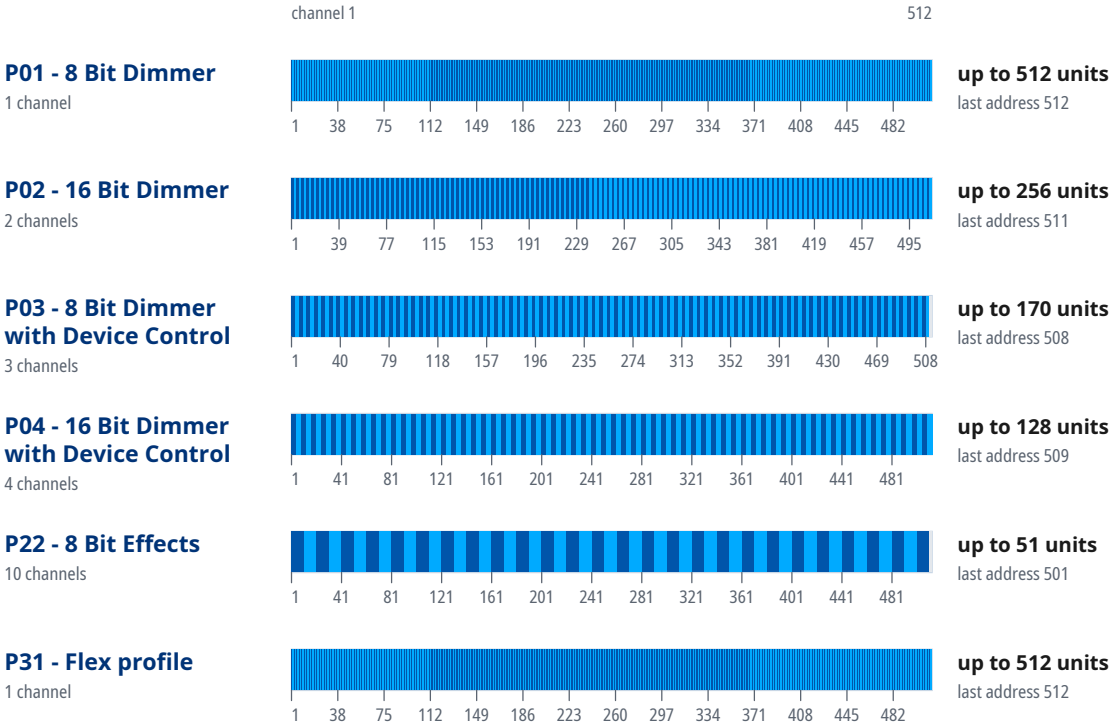
7 Functions at a glance

Functions in each DMX mode

	P01 - 8 Bit Dimmer 1 channel	P02 - 16 Bit Dimmer 2 channels	P03 - 8 Bit Dimmer with Device Control 3 channels	P04 - 16 Bit Dimmer with Device Control 4 channels	P22 - 8 Bit Effects 10 channels	P31 - Flex profile 1 channel
Dimmer	1	1	1	1	1	
Dimmer resolution	8 bit	16 bit	8 bit	16 bit	8 bit	

8 DMX channels

Units in one DMX universe



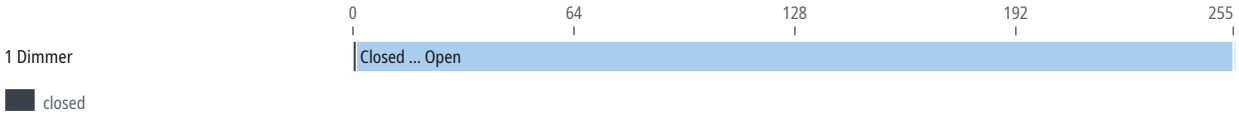
Start addresses of 20 units in the mode “P22 - 8 Bit Effects”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	51	11	101	16	151
2	11	7	61	12	111	17	161
3	21	8	71	13	121	18	171
4	31	9	81	14	131	19	181
5	41	10	91	15	141	20	191

Mode P01 - 8 Bit Dimmer

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



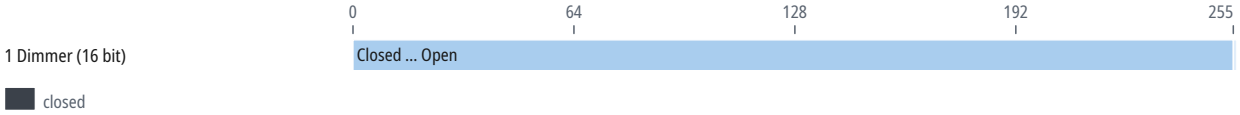
CH	Function	DMX	Description
1	Dimmer	0	Closed
		1–254	Closed ... Open
		255	Open

Mode P02 - 16 Bit Dimmer

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

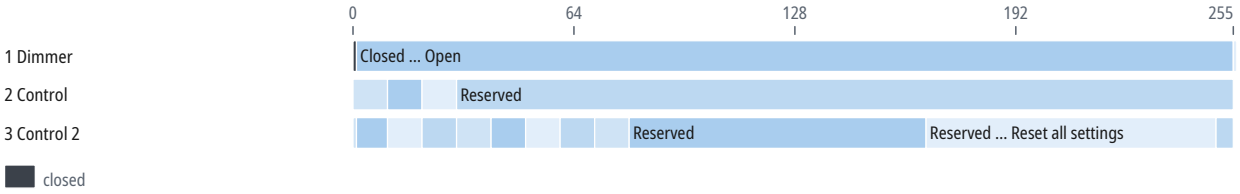


CH	Function	DMX	Description
1	Dimmer	0–255	Closed ... Open
		255	Open
2	Dimmer Fine	0–255	Fine adjustment of CH 1

Mode P03 - 8 Bit Dimmer with Device Control

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		Same as CH 1 in the mode “P01 - 8 Bit Dimmer” (p. 7)
2	Control		Fan Control
		0–9	Auto
		10–19	Max
		20–29	Silent
		30–255	Reserved
3	Control 2		Device configuration
		0	No changes
		1–9	No changes ... DMX smoothing: off
		10–19	DMX smoothing: off
		20–29	DMX smoothing: smooth
		30–39	DMX smoothing: super smooth
		40–49	Dimming curve: Linear
		50–59	Dimming curve: S-Curve
		60–69	Dimming curve: Exponential
		70–79	Dimming curve: Logarithmic

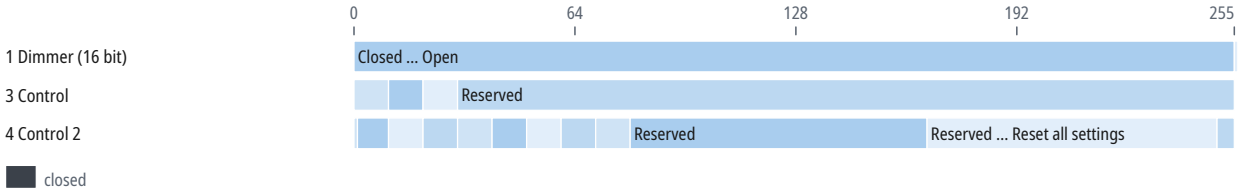
CH	Function	DMX	Description
3	Control 2 (continued)	80–165	Reserved
		166–249	Reserved ... Reset all settings
		250–255	Reset all settings

Mode P04 - 16 Bit Dimmer with Device Control

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

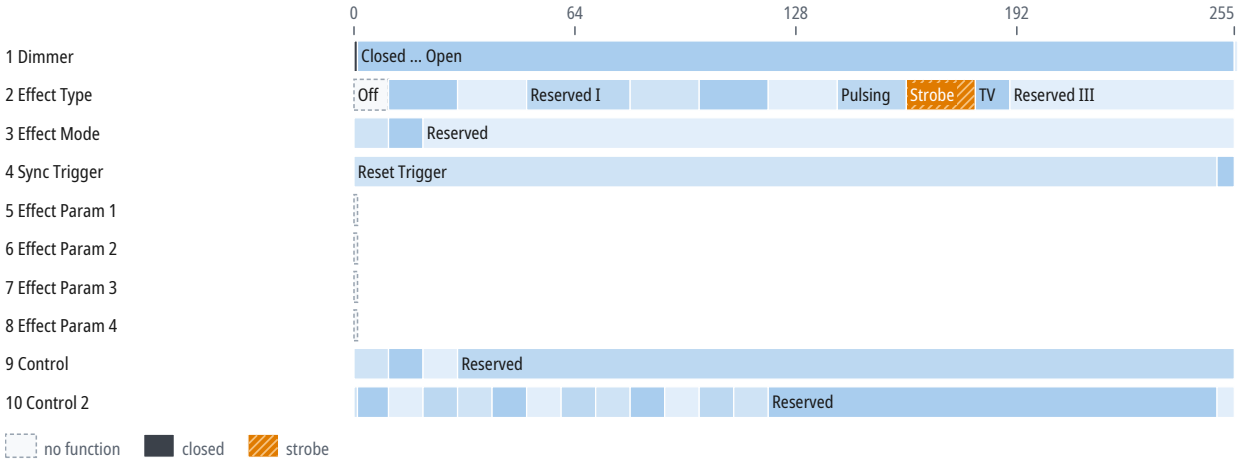


CH	Function	DMX	Description
1	Dimmer		Same as CH 1 in the mode “P02 - 16 Bit Dimmer” (p. 8)
2	Dimmer Fine	0–255	Fine adjustment of CH 1
3	Control		Same as CH 2 in the mode “P03 - 8 Bit Dimmer with Device Control” (p. 8)
4	Control 2		Same as CH 3 in the mode “P03 - 8 Bit Dimmer with Device Control” (p. 8)

Mode P22 - 8 Bit Effects

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		Same as CH 1 in the mode “P01 - 8 Bit Dimmer” (p. 7)
2	Effect Type	0–9	Off
		10–29	Explosion
		30–49	Faulty Bulb
		50–79	Reserved I
		80–99	Lightning
		100–119	Paparazzi
		120–139	Reserved II
		140–159	Pulsing
		160–179	Strobe
		180–189	TV
		190–255	Reserved III
3	Effect Mode	0–9	Loop
		10–19	Trigger
		20–255	Reserved
4	Sync Trigger	0–249	Reset Trigger
		250–255	Trigger Once
5	Effect Param 1		When CH 2 is 0–9:
		0–255	No Effect
			When CH 2 is 10–29:
		0–255	Explosion
			When CH 2 is 30–49:
		0–255	Faulty Bulb
			When CH 2 is 50–79:
		0–255	Reserved I
			When CH 2 is 80–99:
		0–255	Lightning
			When CH 2 is 100–119:
		0–255	Paparazzi
			When CH 2 is 120–139:
		0–255	Reserved II
			When CH 2 is 140–159:
		0–255	Pulsing
			When CH 2 is 160–179:
		0–255	Strobe
			When CH 2 is 180–189:
		0–255	TV
			When CH 2 is 190–255:
		0–255	Reserved III
6	Effect Param 2		When CH 2 is 0–9:

CH	Function	DMX	Description
6	Effect Param 2 (continued)	0–255	No Effect
			When CH 2 is 10–29:
		0–255	Explosion
			When CH 2 is 30–49:
		0–255	Faulty Bulb
			When CH 2 is 50–79:
		0–255	Reserved I
			When CH 2 is 80–99:
		0–255	Lightning
			When CH 2 is 100–119:
		0–255	Paparazzi
			When CH 2 is 120–139:
		0–255	Reserved II
			When CH 2 is 140–159:
		0–255	Pulsing
			When CH 2 is 160–179:
		0–255	Strobe
			When CH 2 is 180–189:
		0–28	1
		29–57	2
		58–84	3
		85–113	4
		114–141	5
		142–169	6
		170–198	7
		199–226	8
		227–254	9
		255	10
			When CH 2 is 190–255:
		0–255	Reserved III
7	Effect Param 3		When CH 2 is 0–9:
		0–255	No Effect
			When CH 2 is 10–29:
		0	0% Speed
		1–127	0% Speed ... 50% Speed
		128	50% Speed
		129–254	50% Speed ... 100% Speed
		255	100% Speed
			When CH 2 is 30–49:
		0–28	1
		29–57	2

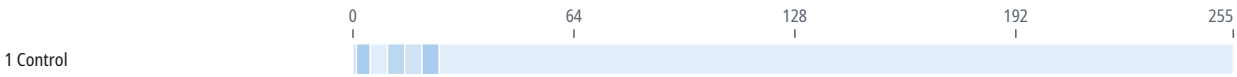
CH	Function	DMX	Description
7	Effect Param 3 (continued)	58–84	3
		85–113	4
		114–141	5
		142–169	6
		170–198	7
		199–226	8
		227–254	9
		255	10
			When CH 2 is 50–79:
		0–255	Reserved I
			When CH 2 is 80–99:
		0	0% Speed
		1–127	0% Speed ... 50% Speed
		128	50% Speed
		129–254	50% Speed ... 100% Speed
		255	100% Speed
			When CH 2 is 100–119:
		0–28	1
		29–57	2
		58–84	3
		85–113	4
		114–141	5
		142–169	6
		170–198	7
		199–226	8
		227–254	9
		255	10
			When CH 2 is 120–139:
		0–255	Reserved II
			When CH 2 is 140–159:
		0–9	Sine
		10–19	Throb
		20–29	Triangle
		30–39	Square
		40–255	Reserved
			When CH 2 is 160–179:
		0	0% Speed
		1–127	0% Speed ... 50% Speed
		128	50% Speed
		129–254	50% Speed ... 100% Speed
		255	100% Speed

CH	Function	DMX	Description
7	Effect Param 3 (continued)		When CH 2 is 180–189:
		0	0% Speed
		1–127	0% Speed … 50% Speed
		128	50% Speed
		129–254	50% Speed … 100% Speed
		255	100% Speed
			When CH 2 is 190–255:
		0–255	Reserved III
8	Effect Param 4		When CH 2 is 0–9:
		0–255	No Effect
			When CH 2 is 10–29:
		0–255	Explosion
			When CH 2 is 30–49:
		0	0% Speed
		1–127	0% Speed … 50% Speed
		128	50% Speed
		129–254	50% Speed … 100% Speed
		255	100% Speed
			When CH 2 is 50–79:
		0–255	Reserved I
			When CH 2 is 80–99:
		0–255	Lightning
			When CH 2 is 100–119:
		0	0% Speed
		1–127	0% Speed … 50% Speed
		128	50% Speed
		129–254	50% Speed … 100% Speed
		255	100% Speed
			When CH 2 is 120–139:
		0–255	Reserved II
			When CH 2 is 140–159:
		0	0% Speed
		1–127	0% Speed … 50% Speed
		128	50% Speed
		129–254	50% Speed … 100% Speed
		255	100% Speed
			When CH 2 is 160–179:
		0–255	Strobe
			When CH 2 is 180–189:
		0–255	TV
			When CH 2 is 190–255:

CH	Function	DMX	Description
8	Effect Param 4 (continued)	0–255	Reserved III
9	Control		Same as CH 2 in the mode “P03 - 8 Bit Dimmer with Device Control” (p. 8)
10	Control 2		Device configuration
		0	No changes
		1–9	No changes ... DMX smoothing: off
		10–19	DMX smoothing: off
		20–29	DMX smoothing: smooth
		30–39	DMX smoothing: super smooth
		40–49	Dimming curve: Linear
		50–59	Dimming curve: S-Curve
		60–69	Dimming curve: Exponential
		70–79	Dimming curve: Logarithmic
		80–89	RGBW Color space: Device
		90–99	RGBW Color space: Rec709
		100–109	RGBW Color space: Rec2020
		110–119	RGBW Color space: DCI-P3
		120–249	Reserved
		250–255	Reset all settings

Mode P31 - Flex profile

Channel functions at a glance



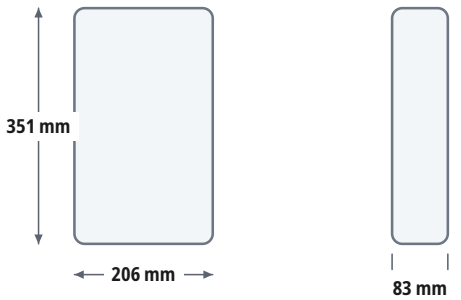
CH	Function	DMX	Description
1	Control	0	Control 1 1
		1–4	P01 - 8 Bit Dimmer
		5–9	P02 - 16 Bit Dimmer
		10–14	P03 - 8 Bit Dimmer with Device Control
		15–19	P04 - 16 Bit Dimmer with Device Control
		20–24	Reserved
		25–255	Control 1 1

9 Technical specifications

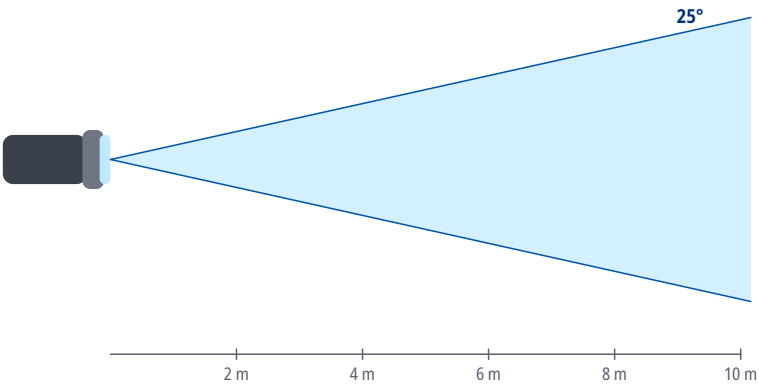
Parameter	Value
Light	
Light source	LED
LED power	600 W
Luminous flux	10,000 lm
Color temperature	6,000 K
Color rendering index (CRI)	100
Optics	
Beam angle	25°
Control	
DMX connection	5-pin XLR IN/OUT
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	690 W
Power connectors	powerCON TRUE1 IN
Dimensions and construction	
Weight	5.9 kg
Operating environment	
Operating temperature	-10 to 35 °C

Dimensions

weight 5.9 kg



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.