DMX REFERENCE

PixMob Wash 2.1 advanced

PixMob Wash 2.1

PixMob

Manufacturer	PixMob
GDTF file	Pixmob_PixMob_Wash_2.1_advanced_13993.gdtf
GDTF revision	v 1.1 full channel set · 2021-06-11
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1 About this manual

This document describes the PixMob Wash 2.1 by PixMob. It was compiled from the GDTF file Pixmob_PixMob_Wash_2.1_advanced_13993.gdtf from the GDTF-Share library.

File revision: “v 1.1 full channel set”.

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 PixMob; 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	125 W
Weight	7.8 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Advanced	22	23	1, 23, 45, 67, ...


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 Product description

Description in the GDTF file

“Infrared Transmitter for PixMob pixel control.”

5 Installation

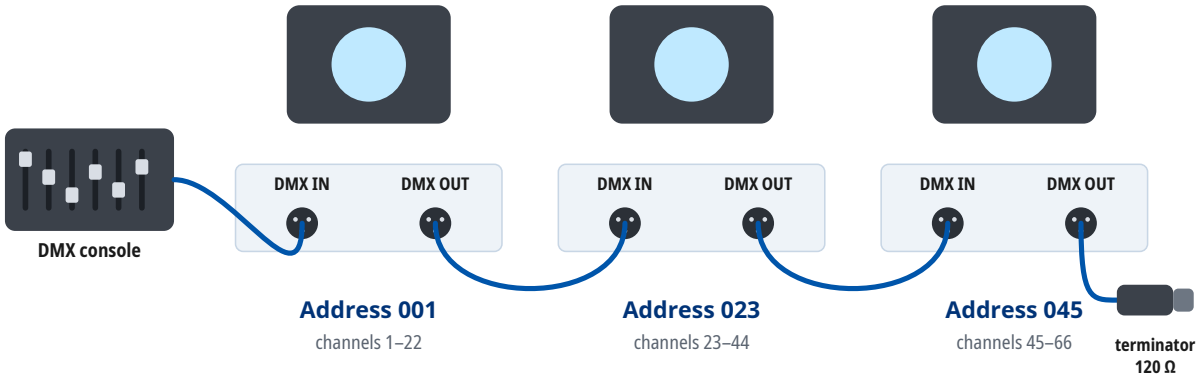
⚠ **WARNING**

- 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: 7.8 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 Advanced: every unit occupies 22 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 “Advanced”: 22.
- 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 “Advanced”, you can use, for example, the start addresses 1, 23, 45, 67.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

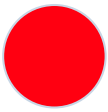
8 Functions at a glance

Functions in each DMX mode

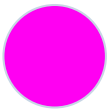
	Advanced 22 channels
Dimmer	16
Color mixing	5–7 *
Color wheel	11, 12

* The function works only when another channel switches it on; see the DMX table.

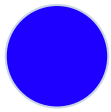
Color wheel 1

1 
Red
DMX 0–15

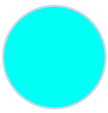
2 
Pink
DMX 16–31

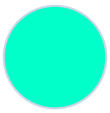
3 
Magenta
DMX 32–47

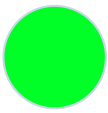
4 
Violet
DMX 48–63

5 
Blue
DMX 64–79

6 
Azure
DMX 80–95

7 
Cyan
DMX 96–111

8 
Spring Green
DMX 112–127

9 
Green
DMX 128–143

10
Chartreuse Green
DMX 144–159

11
Yellow
DMX 160–175

12 
Orange
DMX 176–191

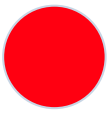
13
Min White
DMX 192–207

14
Quarter White
DMX 208–223

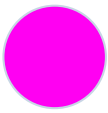
15
Half White
DMX 224–239

16
White
DMX 240–255

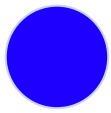
Color wheel 2

1 
Red
DMX 0–15

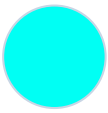
2 
Pink
DMX 16–31

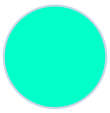
3 
Magenta
DMX 32–47

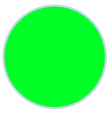
4 
Violet
DMX 48–63

5 
Blue
DMX 64–79

6 
Azure
DMX 80–95

7 
Cyan
DMX 96–111

8 
Spring Green
DMX 112–127

9 
Green
DMX 128–143

10
Chartreuse Green
DMX 144–159

11
Yellow
DMX 160–175

12 
Orange
DMX 176–191

13
Min White
DMX 192–207

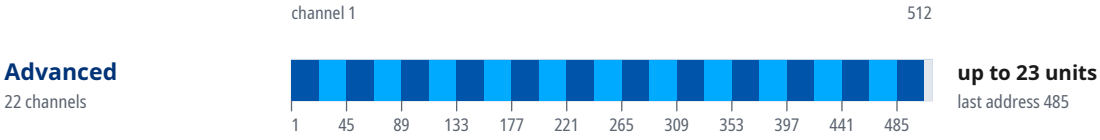
14
Quarter White
DMX 208–223

15
Half White
DMX 224–239

16
White
DMX 240–255

9 DMX channels

Units in one DMX universe



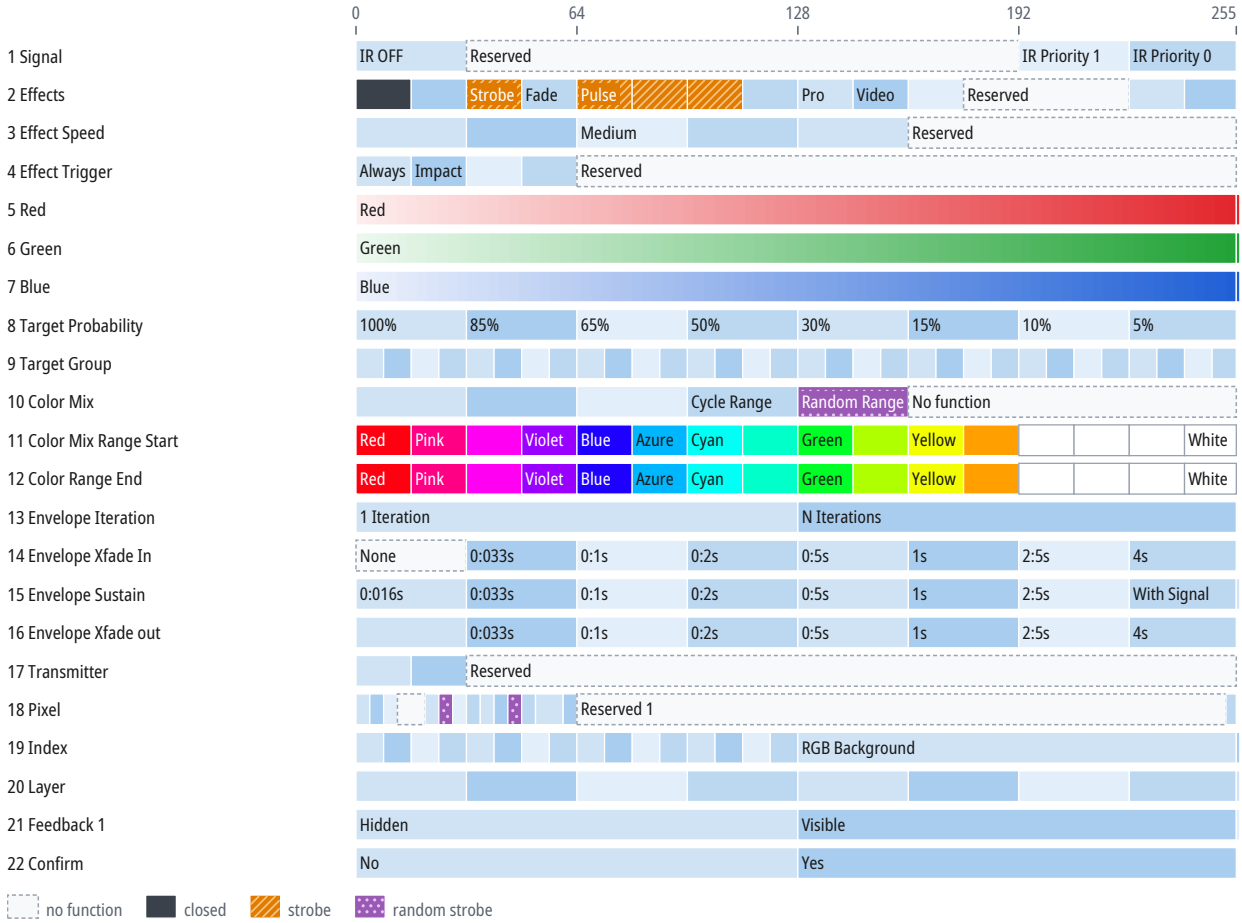
Start addresses of 20 units in the mode “Advanced”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	111	11	221	16	331
2	23	7	133	12	243	17	353
3	45	8	155	13	265	18	375
4	67	9	177	14	287	19	397
5	89	10	199	15	309	20	419

Mode Advanced

The GDTF file gives these values for a console's Highlight function: CH 5 Red 100, CH 6 Green 100, CH 7 Blue 100, CH 10 Color Mix 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Signal	0–31	IR OFF
		32–191	Reserved
		192–223	IR Priority 1
		224–255	IR Priority 0
2	Effects	0–15	Blackout
		16–31	Normal
		32–47	Strobe
		48–63	Fade
		64–79	Pulse
		80–95	Pulse close
		96–111	Pulse open
		112–127	Background
		128–143	Pro
		144–159	Video
		160–175	Express
		176–223	Reserved
		224–239	Program Transmitter
		240–255	Program Pixel
3	Effect Speed	0–31	Effect Speed: Faster
		32–63	Effect Speed: Fast
		64–95	Medium
		96–127	Effect Speed: Slow
		128–159	Effect Speed: Slower
		160–255	Reserved
4	Effect Trigger	0–15	Always
		16–31	Impact
		32–47	Change
		48–63	Change + Impact
		64–255	Reserved
5	Red		When Boost is 0:
		0–191	Red
		192–255	No function
			When Boost is 0–127:
		0–255	Red
6	Green		When Boost is 0:
		0–191	Green
		192–255	No function
			When Boost is 0–127:
		0–255	Green
7	Blue		When Boost is 0:
		0–191	Blue

CH	Function	DMX	Description
7	Blue (continued)	192–255	No function
			When Boost is 0–127:
		0–255	Blue
8	Target Probability	0–31	100%
		32–63	85%
		64–95	65%
		96–127	50%
		128–159	30%
		160–191	15%
		192–223	10%
		224–255	5%
9	Target Group	0–7	Broadcast
		8–15	Group 1
		16–23	Group 2
		24–31	Group 3
		32–39	Group 4
		40–47	Group 5
		48–55	Group 6
		56–63	Group 7
		64–71	Group 8
		72–79	Group 9
		80–87	Group 10
		88–95	Group 11
		96–103	Group 12
		104–111	Group 13
		112–119	Group 14
		120–127	Group 15
		128–135	Group 16
		136–143	Group 17
		144–151	Group 18
		152–159	Group 19
		160–167	Group 20
		168–175	Group 21
		176–183	Group 22
		184–191	Group 23
		192–199	Group 24
		200–207	Group 25
		208–215	Group 26
		216–223	Group 27
		224–231	Group 28
		232–239	Group 29
		240–247	Group 30

CH	Function	DMX	Description
9	Target Group (continued)	248–255	Group 31
10	Color Mix	0–31	Color Mix: Open
		32–63	Start Index Color
		64–95	End Index Color
		96–127	Cycle Range
		128–159	Random Range
		160–255	No function
11	Color Mix Range Start	0–15	Red
		16–31	Pink
		32–47	Magenta
		48–63	Violet
		64–79	Blue
		80–95	Azure
		96–111	Cyan
		112–127	Spring Green
		128–143	Green
		144–159	Chartreuse Green
		160–175	Yellow
		176–191	Orange
		192–207	Min White
		208–223	Quarter White
		224–239	Half White
		240–255	White
12	Color Range End	0–15	Red
		16–31	Pink
		32–47	Magenta
		48–63	Violet
		64–79	Blue
		80–95	Azure
		96–111	Cyan
		112–127	Spring Green
		128–143	Green
		144–159	Chartreuse Green
		160–175	Yellow
		176–191	Orange
		192–207	Min White
		208–223	Quarter White
		224–239	Half White
		240–255	White
13	Envelope Iteration	0–127	1 Iteration
		128–255	N Iterations
14	Envelope Xfade In	0–31	None

CH	Function	DMX	Description
14	Envelope Xfade In (continued)	32–63	0:033s
		64–95	0:1s
		96–127	0:2s
		128–159	0:5s
		160–191	1s
		192–223	2:5s
		224–255	4s
15	Envelope Sustain		When CH 16 is 32–255:
		0–31	0:016s
		32–63	0:033s
		64–95	0:1s
		96–127	0:2s
		128–159	0:5s
		160–191	1s
		192–223	2:5s
		224–255	With Signal
16	Envelope Xfade out	0–31	Set Background
		32–63	0:033s
		64–95	0:1s
		96–127	0:2s
		128–159	0:5s
		160–191	1s
		192–223	2:5s
		224–255	4s
17	Transmitter	0–15	Status LED OFF
		16–31	Status LED ON
		32–255	Reserved
18	Pixel	0–3	Set Color Index
		4–7	Set Layer Active
		8–11	Set Group Layer
		12–19	Reserved
		20–23	Get Battery Level
		24–27	Set Random Scale RGB
		28–31	Set Envelope Delay
		32–35	Set Envelope Iteration
		36–39	Set Signal Timeouts
		40–43	Activate Automode
		44–47	Set Random Scale All
		48–51	Get Version Validation
		52–59	Set Automode Color
		60–63	Reset
		64–251	Reserved 1

CH	Function	DMX	Description
18	Pixel (continued)	252–255	Express Color 2
19	Index		When CH 18 is 0–3:
		0–7	Index 1
		8–15	Index 2
		16–23	Index 3
		24–31	Index 4
		32–39	Index 5
		40–47	Index 6
		48–55	Index 7
		56–63	Index 8
		64–71	Index 9
		72–79	Index 10
		80–87	Index 11
		88–95	Index 12
		96–103	Index 13
		104–111	Index 14
		112–119	Index 15
		120–127	Index 16
		128–255	RGB Background
			When CH 18 is 4–7:
		0–255	
			When CH 18 is 8–11:
		0–7	Reserved
		8–15	Group 1
		16–23	Group 2
		24–31	Group 3
		32–39	Group 4
		40–47	Group 5
		48–55	Group 6
		56–63	Group 7
		64–71	Group 8
		72–79	Group 9
		80–87	Group 10
		88–95	Group 11
		96–103	Group 12
		104–111	Group 13
		112–119	Group 14
		120–127	Group 15
		128–135	Group 16
		136–143	Group 17
		144–151	Group 18
		152–159	Group 19

CH	Function	DMX	Description
19	Index (continued)	160–167	Group 20
		168–175	Group 21
		176–183	Group 22
		184–191	Group 23
		192–199	Group 24
		200–207	Group 25
		208–215	Group 26
		216–223	Group 27
		224–231	Group 28
		232–239	Group 29
		240–247	Group 30
		248–255	Group 31
			When CH 18 is 24–27:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 18 is 28–31:
		0–31	0s
		32–63	0:033s
		64–95	0:1s
		96–127	0:2s
		128–159	0:5s
		160–191	1s
		192–223	2:5s
		224–255	4s
			When CH 18 is 32–35:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 18 is 36–39:
		0–31	0:05s
		32–63	0:1s
		64–95	0:15s
		96–127	0:2s
		128–159	0:5s
		160–191	1s
		192–223	2:5s
		224–255	4s
			When CH 18 is 40–43:
		0	Off Automode
		1–62	1...62 min
		63–255	63 min

CH	Function	DMX	Description
19	Index (continued)		When CH 18 is 44–47:
		0	Min
		1–254	Min … max
		255	Max
			When CH 18 is 48–51:
		0	Min
		1–62	Min … max
		63–255	Max
			When CH 18 is 60–63:
		0–127	Reboot
		128–255	Reboot + Reset
			When CH 18 is 252–255:
		0	Min
		1–254	Min … max
		255	Max
			When CH 18 is 56–59:
		0–14	Use Index 1…15
		15–255	Use Index 16
20	Layer		When CH 18 is 4–7:
		0–31	Layer 0
		32–63	Layer 1
		64–95	Layer 2
		96–127	Layer 3
		128–159	Layer 4
		160–191	Layer 5
		192–223	Layer 6
		224–255	Layer 7
			When CH 18 is 8–11:
		0–31	Layer 0
		32–63	Layer 1
		64–95	Layer 2
		96–127	Layer 3
		128–159	Layer 4
		160–191	Layer 5
		192–223	Layer 6
		224–255	Layer 7
			When CH 18 is 24–27:
		0	Min
		1–254	Min … max
		255	Max
			When CH 18 is 28–31:
		0	Min

CH	Function	DMX	Description
20	Layer (continued)	1–254	Min ... max
		255	Max
			When CH 18 is 32–35:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 18 is 36–39:
		0–31	0:05s
		32–63	0:1s
		64–95	0:15s
		96–127	0:2s
		128–159	0:5s
		160–191	1s
		192–223	2:5s
		224–255	4s
			When CH 18 is 40–44:
		0	1:5s
		1	3s
		2	4:5s
		3	6s
		4	7:5s
		5	9s
		6	10:5s
		7	12s
		8	13:5s
		9	15s
		10	16:5s
		11	18s
		12	19:5s
		13	21s
		14	22:5s
		15	24s
		16	25:5s
		17	27s
		18	28:5s
		19	30s
		20	31:5s
		21	33s
		22	34:5s
		23	36s
		24	37:5s
		25	39s

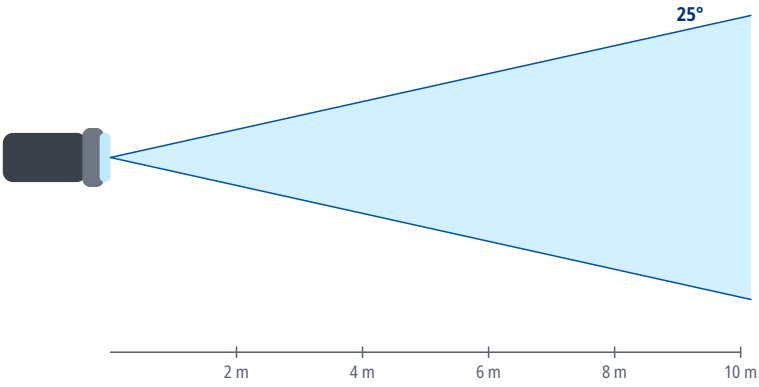
CH	Function	DMX	Description
20	Layer (continued)	26	40:5s
		27	42s
		28	43:5s
		29	45s
		30	46:5s
		31–255	48s
			When CH 18 is 48–51:
		0–255	Version Minor
			When CH 18 is 252–255:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 18 is 0–3:
		0–255	
			When CH 18 is 20–23:
		0–255	No function
			When CH 18 is 60–63:
		0–255	No function
21	Feedback 1		When CH 18 is 0–3:
		0–127	Hidden
		128–255	Visible
			When CH 18 is 4–7:
		0–127	Hidden
		128–255	Visible
			When CH 18 is 8–11:
		0–127	Hidden
		128–255	Visible
			When CH 18 is 20–23:
		0–255	
			When CH 18 is 24–27:
		0	Min
		1–254	Min ... max
		255	Max
			When CH 18 is 28–31:
		0–255	No function
			When CH 18 is 32–35:
		0–255	No function
			When CH 18 is 36–39:
		0	1s min
		1–254	1s min ... 64s max
		255	64s max
			When CH 18 is 40–44:

CH	Function	DMX	Description
21	Feedback 1 (continued)	0–127	Hidden
		128–255	Visible
			When CH 18 is 45–51:
		0–255	No function
			When CH 18 is 52–59:
		0–127	Hidden
		128–255	Visible
			When CH 18 is 60–63:
		0–255	No function
			When CH 18 is 252–255:
		0	Min
		1–254	Min ... max
		255	Max
22	Confirm	0–127	No
		128–255	Yes

10 Technical specifications

Parameter	Value
Light	
Light source	discharge lamp
Lamp power	1,000 W
Luminous flux	1,000 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	125 W
Dimensions and construction	
Weight	7.8 kg
Operating environment	
Operating temperature	-20 to 60 °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.

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.