DMX REFERENCE

KON 300

DJM LIGHTING



Manufacturer	DJM LIGHTING
GDTF file	DJM_LIGHTING_KON_300_161530.gdtf
GDTF revision	Created · 2025-05-21
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1 About this manual

This document describes the KON 300 by DJM LIGHTING. It was compiled from the GDTF file DJM_LIGHTING_KON_300_161530.gdtf from the GDTF-Share library.

File revision: “Created”.

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 DJM LIGHTING; 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	300 W
Weight	5.6 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
8ch	8	64	1, 9, 17, 25, ...
20ch	20	25	1, 21, 41, 61, ...
52ch	52	9	1, 53, 105, 157, ...

No light? Check these channels

- 20ch: CH 4 Dimmer 1 above 0; CH 5 Shutter 1 at 1–9 “Open”; CH 11 Shutter 2 at 1–9 “Open”; CH 15 Shutter 3 at 1–9 “Open”


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

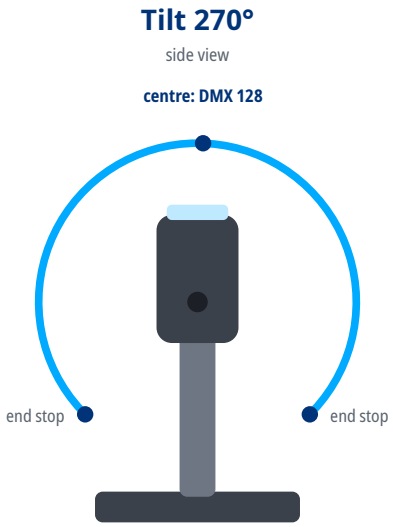
- This device emits intense light. Do not look directly into the light source or the beam at close range; doing so may damage your eyes.
- Do not aim the beam at the eyes of people or animals at close range, and do not view the light source through optical instruments (binoculars, camera lenses).
- Do 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.

> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts, move them by hand, or obstruct their movement; this can cause injury (pinching) and damage the drive.
> - Do not carry the device by its moving parts. If the device has a transport lock, engage it before transport and release it before switching on.

4 Product description

Range of movement



5 Installation

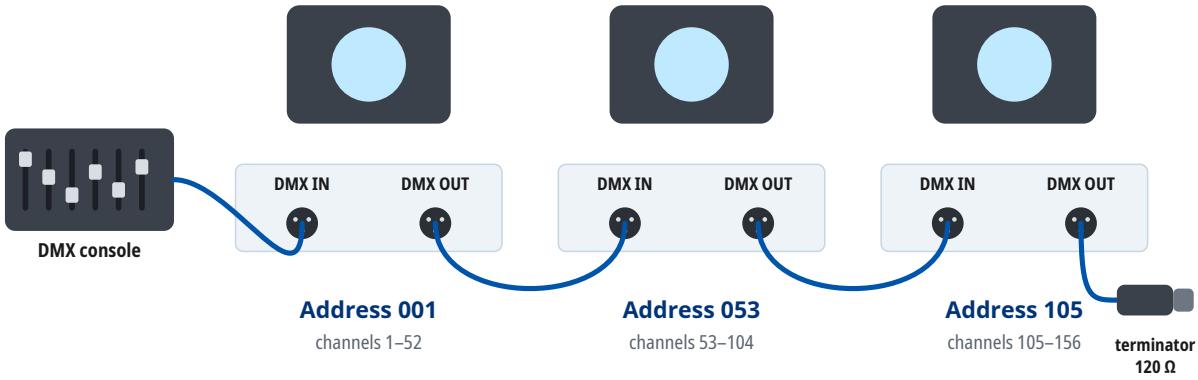
⚠ **WARNING**

- 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: 5.6 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 52ch: every unit occupies 52 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

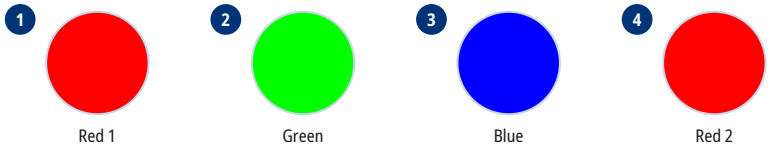
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “52ch”: 52.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied channel does not exceed 512. Devices with the same start address and mode respond identically.
- For several devices in a row in the DMX mode “52ch”, you can use, for example, the start addresses 1, 53, 105, 157.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

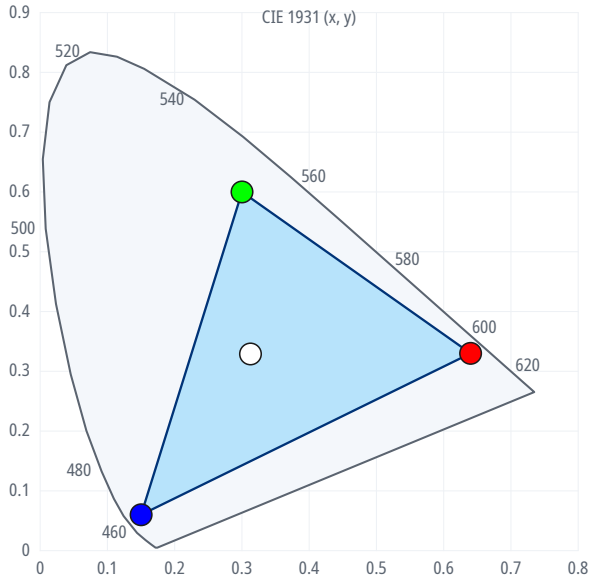
Functions in each DMX mode

	8ch 8 channels	20ch 20 channels	52ch 52 channels
Pan / Tilt	1	1	1
Dimmer		4, 19	
Shutter / strobe		5, 11, 15	
Color mixing	4–7	6–8, 12	4–51
Color wheel		18	
Effects / macros		9, 10, 13, 14, 16, 17	
Pixel control		✓	12 + 12 cells

Color wheel



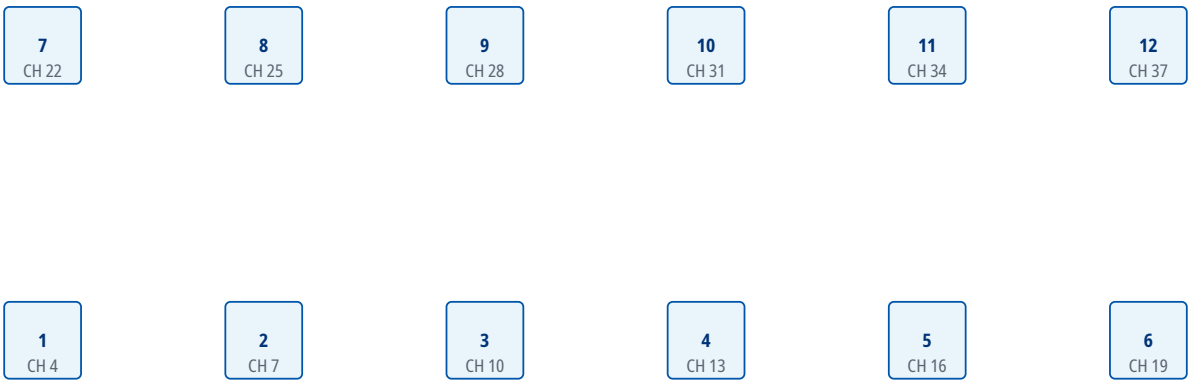
LED colors and the colors they mix



LED	x	y
Red	0.640	0.330
Green	0.300	0.600
Blue	0.150	0.060
White	0.313	0.329

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

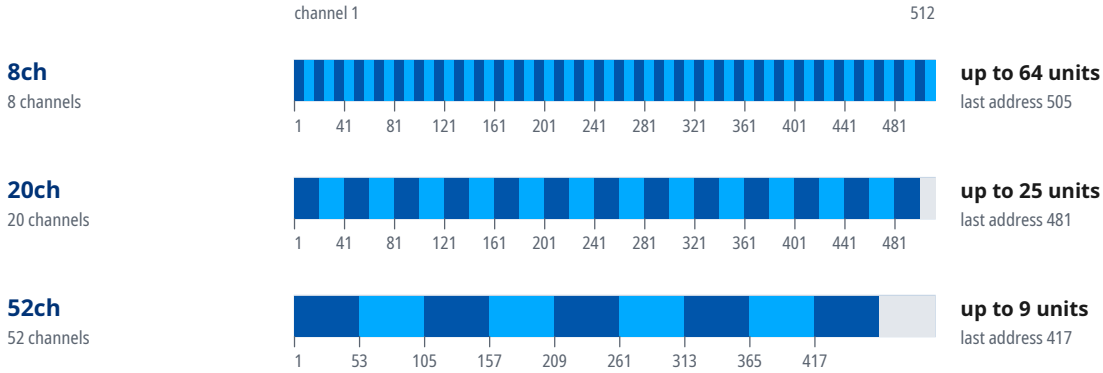
Cells (pixels)



12 cells where the GDTF file places them (seen from above), numbered by their first DMX channel (CH) in the mode “52ch”.

9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “52ch”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	261	11	U2 · 53	16	U2 · 313
2	53	7	313	12	U2 · 105	17	U2 · 365
3	105	8	365	13	U2 · 157	18	U2 · 417
4	157	9	417	14	U2 · 209	19	U3 · 1
5	209	10	U2 · 1	15	U2 · 261	20	U3 · 53

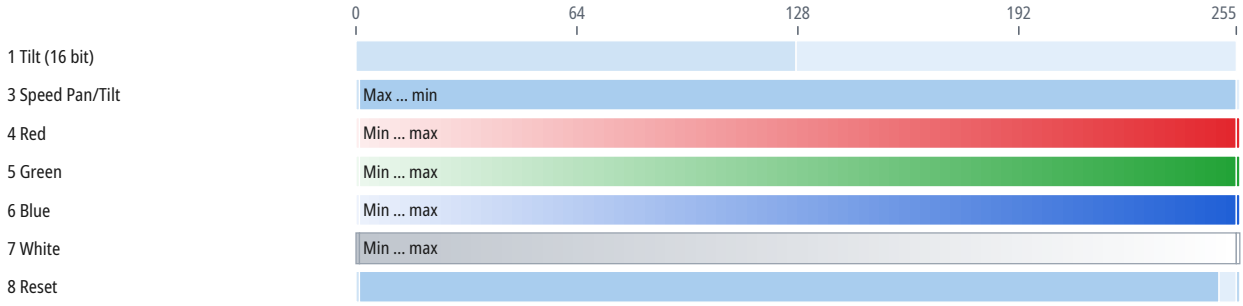
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 8ch

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 4 Red 255, CH 5 Green 255, CH 6 Blue 0, CH 7 White 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt	0–127	Tilt
		127	Center
		128–255	Tilt
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Speed Pan/Tilt		Tilt speed

CH	Function	DMX	Description
3	Speed Pan/Tilt (continued)	0	Max
		1–254	Max … min
		255	Min
4	Red	0	Min
		1–254	Min … max
		255	Max
5	Green	0	Min
		1–254	Min … max
		255	Max
6	Blue	0	Min
		1–254	Min … max
		255	Max
7	White	0	Min
		1–254	Min … max
		255	Max
8	Reset	0–249	Safe
		250–255	Reset

Mode 20ch

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 4 Dimmer 1 above 0; CH 5 Shutter 1 at 1–9 “Open”; CH 11 Shutter 2 at 1–9 “Open”; CH 15 Shutter 3 at 1–9 “Open”. The GDTF file gives these values for a console's Highlight function: CH 6 Red 255, CH 7 Green 255, CH 8 Blue 0, CH 12 White 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt		Same as CH 1 in the mode “8ch” (p. 9)
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Speed Pan/Tilt		Same as CH 3 in the mode “8ch” (p. 9)
4	Dimmer 1	0–255	
5	Shutter 1	0	Strobe off
		1–9	Open
		10	Strobe min
		11–129	Strobe min ... Strobe mid
		130	Strobe mid
		131–254	Strobe mid ... Strobe max
		255	Strobe max
6	Red		Same as CH 4 in the mode “8ch” (p. 10)
7	Green		Same as CH 5 in the mode “8ch” (p. 10)
8	Blue		Same as CH 6 in the mode “8ch” (p. 10)

CH	Function	DMX	Description
9	Effects 1		RGB macros
		0–2	Macro off
		3–5	Color fade
		6–8	6-color pulse
		9–11	7-color jump
		12–14	Macro 1 MC
		15–17	Macro 1 AC
		18–20	Macro 2 MC
		21–23	Macro 2 AC
		24–26	Macro 3 MC
		27–29	Macro 3 AC
		30–32	Macro 4 MC
		33–35	Macro 4 AC
		36–38	Macro 5 MC
		39–41	Macro 5 AC
		42–44	Macro 6 MC
		45–47	Macro 6 AC
		48–50	Macro 7 MC
		51–53	Macro 7 AC
		54–56	Macro 8 MC
		57–59	Macro 8 AC
		60–62	Macro 9 MC
		63–65	Macro 9 AC
		66–68	Macro 10 MC
		69–71	Macro 10 AC
		72–74	Macro 11 MC
		75–77	Macro 11 AC
		78–80	Macro 12 MC
		81–83	Macro 12 AC
		84–86	Macro 13 MC
		87–89	Macro 13 AC
		90–92	Macro 14 MC
		93–95	Macro 14 AC
		96–98	Macro 15 MC
		99–101	Macro 15 AC
		102–104	Macro 16 MC
		105–107	Macro 16 AC
		108–110	Macro 17 MC
		111–113	Macro 17 AC
		114–116	Macro 18 MC
		117–119	Macro 18 AC
		120–122	Macro 19 MC

CH	Function	DMX	Description
9	Effects 1 (continued)	123–125	Macro 19 AC
		126–128	Macro 20 MC
		129–131	Macro 20 AC
		132–134	Macro 21 MC
		135–137	Macro 21 AC
		138–140	Macro 22 MC
		141–143	Macro 22 AC
		144–146	Macro 23 MC
		147–149	Macro 23 AC
		150–152	Macro 24 MC
		153–155	Macro 24 AC
		156–158	Macro 25 MC
		159–161	Macro 25 AC
		162–164	Macro 26 MC
		165–167	Macro 26 AC
		168–170	Macro 27
		171–173	Macro 28
		174–176	Macro 29
		177–179	Macro 30
		180–182	Macro 31
		183–185	Macro 32
		186–188	Macro 33
		189–191	Macro 34
		192–194	Macro 35
		195–197	Macro 36
		198–200	Macro 37
		201–203	Macro 38
		204–206	Macro 39
		207–209	Macro 40
		210–212	Macro 41
		213–215	Macro 42
		216–218	Macro 43
		219–221	Macro 44
		222–224	Macro 45
		225–227	Macro 46
		228–230	Macro 47
		231–233	Macro 48
		234–236	Macro 49
		237–239	Macro 50
		240–242	Macro 51
		243–245	Macro 52
		246–248	Macro 53

CH	Function	DMX	Description
9	Effects 1 (continued)	249–251	Macro 54
		252–254	Macro 55
		255	Macro 56
10	Effects Speed 1		RGB macro speed
		0	Min
		1–254	Min ... max
		255	Max
11	Shutter 2	0	Strobe off
		1–9	Open
		10	Strobe min
		11–129	Strobe min ... Strobe mid
		130	Strobe mid
		131–254	Strobe mid ... Strobe max
		255	Strobe max
12	White		Same as CH 7 in the mode “8ch” (p. 10)
13	Effects 2		W macros
		0–3	Macro off
		4–7	Macro 1
		8–11	Macro 2
		12–15	Macro 3
		16–19	Macro 4
		20–23	Macro 5
		24–27	Macro 6
		28–31	Macro 7
		32–35	Macro 8
		36–39	Macro 9
		40–43	Macro 10
		44–47	Macro 11
		48–51	Macro 12
		52–55	Macro 13
		56–59	Macro 14
		60–63	Macro 15
		64–67	Macro 16
		68–71	Macro 17
		72–75	Macro 18
		76–79	Macro 19
		80–83	Macro 20
		84–87	Macro 21
		88–91	Macro 22
		92–95	Macro 23
		96–99	Macro 24
		100–103	Macro 25

CH	Function	DMX	Description
13	Effects 2 (continued)	104–107	Macro 26
		108–111	Macro 27
		112–115	Macro 28
		116–119	Macro 29
		120–123	Macro 30
		124–127	Macro 31
		128–131	Macro 32
		132–135	Macro 33
		136–139	Macro 34
		140–143	Macro 35
		144–147	Macro 36
		148–151	Macro 37
		152–155	Macro 38
		156–159	Macro 39
		160–163	Macro 40
		164–167	Macro 41
		168–171	Macro 42
		172–175	Macro 43
		176–179	Macro 44
		180–183	Macro 45
		184–187	Macro 46
		188–191	Macro 47
		192–195	Macro 48
		196–199	Macro 49
		200–203	Macro 50
		204–207	Macro 51
		208–211	Macro 52
		212–215	Macro 53
		216–219	Macro 54
		220–223	Macro 55
		224–227	Macro 56
		228–231	Macro 57
		232–235	Macro 58
		236–239	Macro 59
		240–243	Macro 60
		244–247	Macro 61
		248–251	Macro 62
		252–255	Macro 63
14	Effects Speed 2		W macro speed
		0	Min
		1–254	Min … max
		255	Max

CH	Function	DMX	Description
15	Shutter 3	0	Strobe off
		1–9	Open
		10	Strobe min
		11–129	Strobe min … Strobe mid
		130	Strobe mid
		131–254	Strobe mid … Strobe max
		255	Strobe max
16	Effects 3		RGB+W macros
		0–2	Macro off
		3–5	Color fade
		6–8	6-color pulse
		9–11	7-color jump
		12–14	Macro 1 MC
		15–17	Macro 1 AC
		18–20	Macro 2 MC
		21–23	Macro 2 AC
		24–26	Macro 3 MC
		27–29	Macro 3 AC
		30–32	Macro 4 MC
		33–35	Macro 4 AC
		36–38	Macro 5 MC
		39–41	Macro 5 AC
		42–44	Macro 6 MC
		45–47	Macro 6 AC
		48–50	Macro 7 MC
		51–53	Macro 7 AC
		54–56	Macro 8 MC
		57–59	Macro 8 AC
		60–62	Macro 9 MC
		63–65	Macro 9 AC
		66–68	Macro 10 MC
		69–71	Macro 10 AC
		72–74	Macro 11 MC
		75–77	Macro 11 AC
		78–80	Macro 12 MC
		81–83	Macro 12 AC
		84–86	Macro 13 MC
		87–89	Macro 13 AC
		90–92	Macro 14 MC
		93–95	Macro 14 AC
		96–98	Macro 15 MC
		99–101	Macro 15 AC

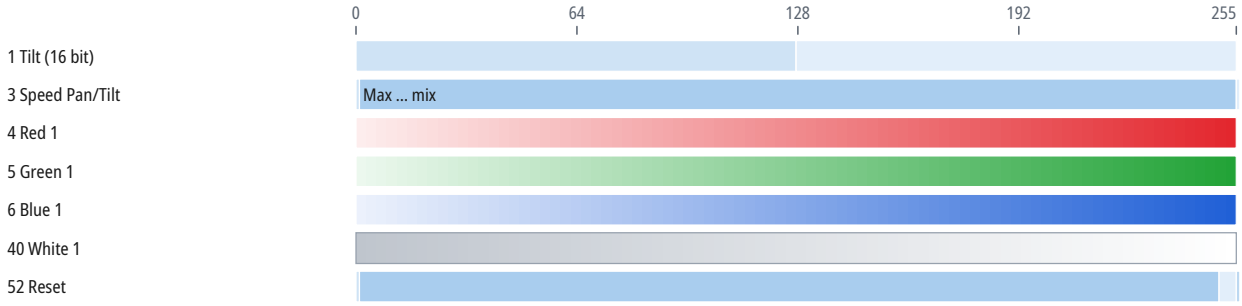
CH	Function	DMX	Description
16	Effects 3 (continued)	102–104	Macro 16 MC
		105–107	Macro 16 AC
		108–110	Macro 17 MC
		111–113	Macro 17 AC
		114–116	Macro 18 MC
		117–119	Macro 18 AC
		120–122	Macro 19 MC
		123–125	Macro 19 AC
		126–128	Macro 20 MC
		129–131	Macro 20 AC
		132–134	Macro 21 MC
		135–137	Macro 21 AC
		138–140	Macro 22 MC
		141–143	Macro 22 AC
		144–146	Macro 23 MC
		147–149	Macro 23 AC
		150–152	Macro 24 MC
		153–155	Macro 24 AC
		156–158	Macro 25 MC
		159–161	Macro 25 AC
		162–164	Macro 26 MC
		165–167	Macro 26 AC
		168–170	Macro 27
		171–173	Macro 28
		174–176	Macro 29
		177–179	Macro 30
		180–182	Macro 31
		183–185	Macro 32
		186–188	Macro 33
		189–191	Macro 34
		192–194	Macro 35
		195–197	Macro 36
		198–200	Macro 37
		201–203	Macro 38
		204–206	Macro 39
		207–209	Macro 40
		210–212	Macro 41
		213–215	Macro 42
		216–218	Macro 43
		219–221	Macro 44
		222–224	Macro 45
		225–227	Macro 46

CH	Function	DMX	Description
16	Effects 3 (continued)	228–230	Macro 47
		231–233	Macro 48
		234–236	Macro 49
		237–239	Macro 50
		240–242	Macro 51
		243–245	Macro 52
		246–248	Macro 53
		249–251	Macro 54
		252–254	Macro 55
		255	Macro 56
17	Effects Speed 3		RGB+W macro speed
		0	Min
		1–254	Min … max
		255	Max
18	Colors	0–255	Back Color
19	Dimmer 2	0	Min
		1–254	Min … max
		255	Max
20	Reset		Same as CH 8 in the mode “8ch” (p. 10)

Mode 52ch

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

Channel functions at a glance



CH	Function	DMX	Description
1	Tilt		Same as CH 1 in the mode “8ch” (p. 9)
2	Tilt Fine	0–255	Fine adjustment of CH 1
3	Speed Pan/Tilt		Tilt speed
		0	Max
		1–254	Max … mix
		255	Mix
4	Red 1	0–255	
5	Green 1	0–255	

CH	Function	DMX	Description
6	Blue 1	0–255	
40	White 1	0–255	
52	Reset		Same as CH 8 in the mode “8ch” (p. 10)

CH 4–39: 12 cells of 3 channels each. Every cell works as cell 1 in the table above (CH 4–6); the table below gives each cell's channel numbers.

Cell	Red	Green	Blue	Cell	Red	Green	Blue	Cell	Red	Green	Blue
1	4	5	6	2	7	8	9	3	10	11	12
4	13	14	15	5	16	17	18	6	19	20	21
7	22	23	24	8	25	26	27	9	28	29	30
10	31	32	33	11	34	35	36	12	37	38	39

CH 40–51: 12 cells of 1 channel each. Every cell works as cell 1 in the table above (CH 40); the table below gives each cell's channel numbers.

Cell	White	Cell	White	Cell	White	Cell	White	Cell	White	Cell	White
1	40	2	41	3	42	4	43	5	44	6	45
7	46	8	47	9	48	10	49	11	50	12	51

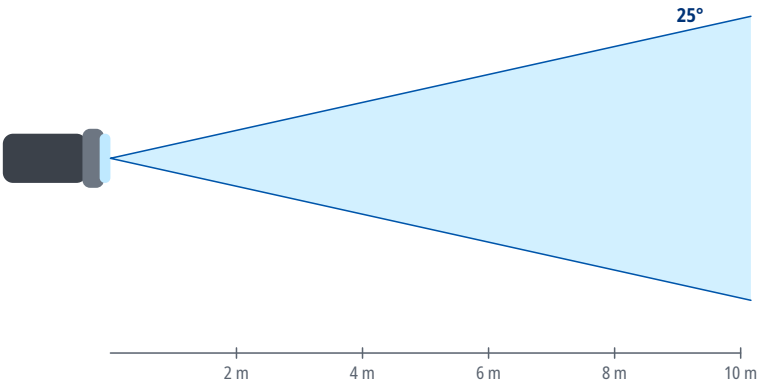
10 Technical specifications

Parameter	Value
Tilt	270°
DMX connection	3-pin XLR IN/OUT
Power supply	100–240 V, 50/60 Hz
Power consumption	300 W
Power connectors	PowerConBlue IN, NAC3FCB OUT
Weight	5.6 kg
Operating temperature	0 to 40 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0.5–20 Hz

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.
Movement is reversed	Check whether Pan/Tilt inversion is enabled in the device menu or in the controller.
Moving parts do not reach the correct position after power-on or transport	Switch the device off and on again to reset the position, and make sure the transport lock, if any, is released. If this does not help, contact a service center.
Movement is jerky	Check the value of the Pan/Tilt speed channel, if the device has one, and the stability of the DMX signal.

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.