DMX REFERENCE

ERA 300 Profile

Martin Professional



Manufacturer	Martin Professional
GDTF file	Martin_Professional_ERA_300_Profile_35509.gdtf
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1 About this manual

This document describes the ERA 300 Profile by Martin Professional. It was compiled from the GDTF file Martin_Professional_ERA_300_Profile_35509.gdtf from the GDTF-Share library.

File revision: “20230226, 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.

This document was not issued or endorsed by Martin Professional; 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	375 W
Weight	17 kg

DMX modes

Mode	Channels	Units in one universe	First start addresses
Basic	21	24	1, 22, 43, 64, ...

No light? Check these channels

- Basic: CH 1 Shutter at 20–24, 65–69, 85–89, 105–109, 125–129 or 145–255 “Open”; CH 2 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.

> ⚠ **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.

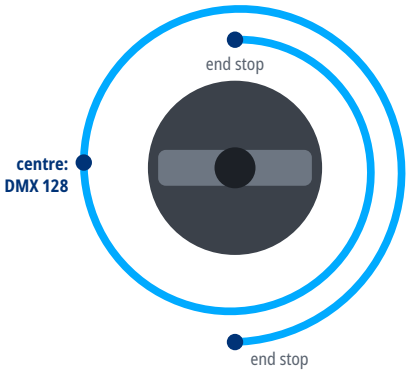
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do 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

Pan 540°

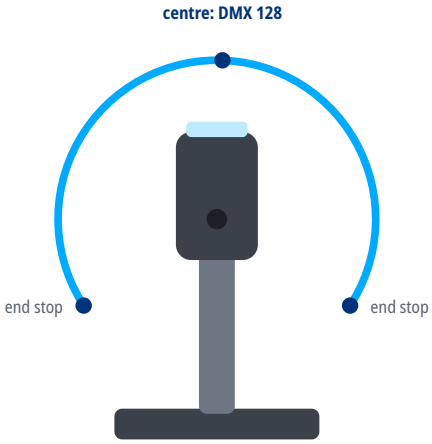
top view



full travel in 2.5 s

Tilt 246°

side view



full travel in 1.9 s

Full-travel times as stated in the GDTF file.

5 Installation

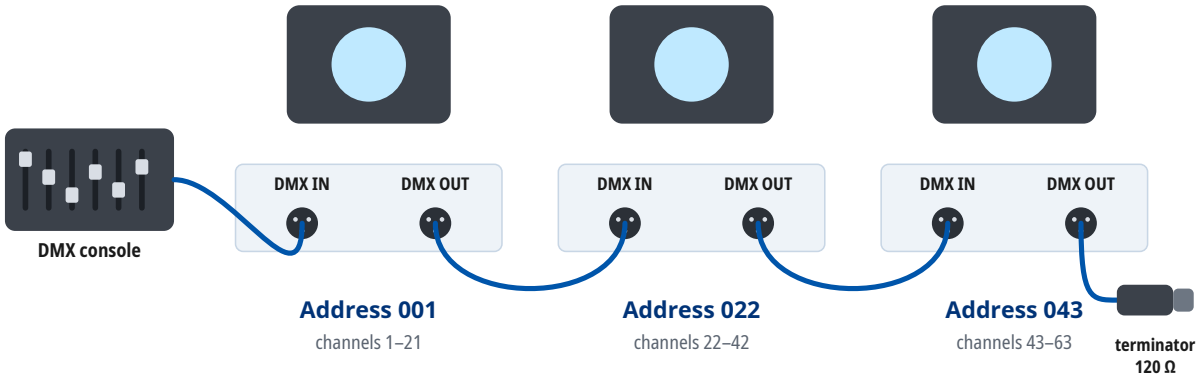
⚠ **WARNING**

- 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: 17 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 Basic: every unit occupies 21 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 “Basic”: 21.
- 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 “Basic”, you can use, for example, the start addresses 1, 22, 43, 64.
- 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

	Basic 21 channels
Pan / Tilt	16, 18
Dimmer	2
Shutter / strobe	1
Color mixing	4–6
Color wheel	7
Gobo wheel	8, 10
Gobo rotation	9
Prism	11, 12
Zoom	14
Focus	15
Iris	13
Effects / macros	11

Color wheel



1. Color Selection: Open — DMX 0–6
2. Color Selection: Light Blue — DMX 7–12
3. Color Selection: Dark Green — DMX 13–18
4. Color Selection: Pink — DMX 19–25
5. Color Selection: Orange — DMX 26–31
6. Color Selection: Light Green — DMX 32–37
7. Color Selection: Light Magenta — DMX 38–44
8. Color Selection: Light Yellow — DMX 45–50
9. Color Selection: Dark Blue — DMX 51–56
10. Dark Red — DMX 57–64

Gobo wheel 1



1. Gobo 1 Selection: Open — DMX 0–7
2. Gobo 1 Selection: Gobo 1 — DMX 8–15
3. Gobo 1 Selection: Gobo 2 — DMX 16–23
4. Gobo 1 Selection: Gobo 3 — DMX 24–31
5. Gobo 1 Selection: Gobo 4 — DMX 32–39
6. Gobo 1 Selection: Gobo 5 — DMX 40–47
7. Gobo 1 Selection: Gobo 6 — DMX 48–55
8. Gobo 7 — DMX 56–64

Gobo wheel 2

1
Gobo 2 Selection: Open
DMX 0–6

2 
Gobo 2 Selection: Gobo 1
DMX 7–12

3 
Gobo 2 Selection: Gobo 2
DMX 13–18

4 
Gobo 2 Selection: Gobo 3
DMX 19–25

5 
Gobo 2 Selection: Gobo 4
DMX 26–31

6 
Gobo 2 Selection: Gobo 5
DMX 32–37

7 
Gobo 2 Selection: Gobo 6
DMX 38–44

8 
Gobo 2 Selection: Gobo 7
DMX 45–50

9 
Gobo 2 Selection: Gobo 8
DMX 51–56

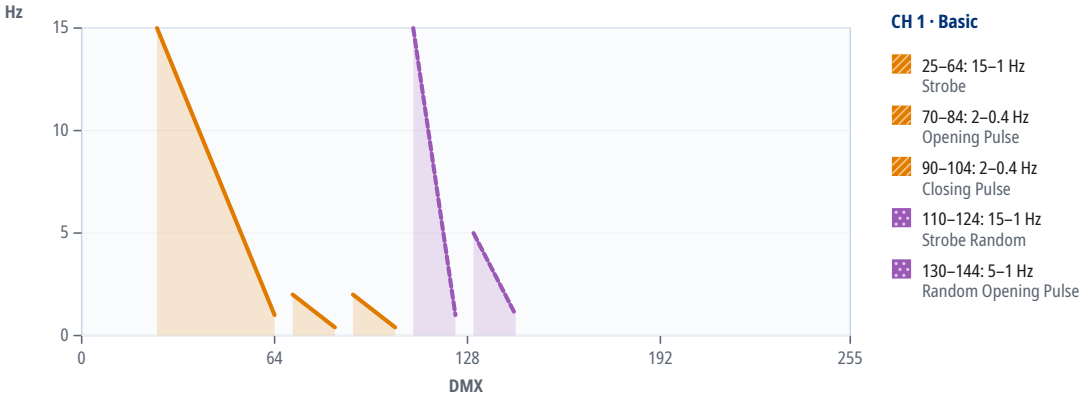
10 
Gobo 9
DMX 57–64

Prism

1
Prism: Open
DMX 0–10

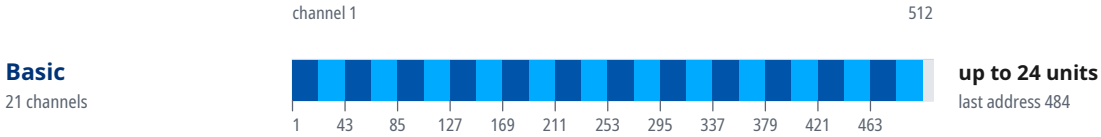
2 
3 facets
3 Facet Prism
DMX 11–128

Strobe rate



9 DMX channels

Units in one DMX universe



Start addresses of 20 units in the mode “Basic”

Unit	Start address	Unit	Start address	Unit	Start address	Unit	Start address
1	1	6	106	11	211	16	316
2	22	7	127	12	232	17	337
3	43	8	148	13	253	18	358
4	64	9	169	14	274	19	379
5	85	10	190	15	295	20	400

RDM personalities

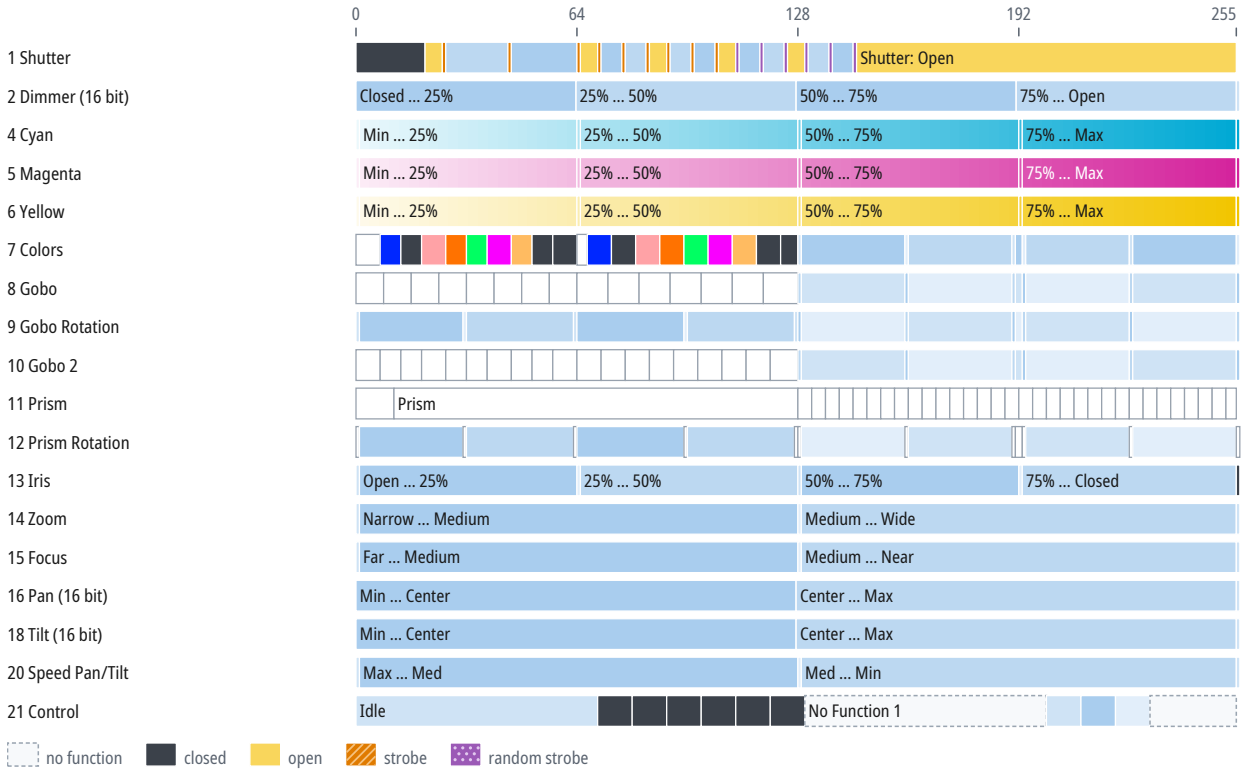
Mode	Channels	RDM personality
Basic	21	1

Mode Basic

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 Shutter at 20–24, 65–69, 85–89, 105–109, 125–129 or 145–255 “Open”; CH 2 Dimmer above 0. The GDTF file gives these values for a console's Highlight function: CH 1 Shutter 22, CH 2 Dimmer 255, CH 4 Cyan 0, CH 5 Magenta 0, CH 6 Yellow 0, CH 7 Colors 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Shutter	0–19	Shutter: Closed
		20–24	Shutter: Open
		25	Strobe: Fast
		26–43	Strobe: Fast ... Medium
		44	Strobe: Medium
		45–63	Strobe: Medium ... Slow
		64	Strobe: Slow
		65–69	Shutter: Open
		70	Opening Pulse: Fast
		71–76	Opening Pulse: Fast ... Medium
		77	Opening Pulse: Medium
		78–83	Opening Pulse: Medium ... Slow
		84	Opening Pulse: Slow
		85–89	Shutter: Open
		90	Closing Pulse: Fast

CH	Function	DMX	Description
1	Shutter (continued)	91–96	Closing Pulse: Fast ... Medium
		97	Closing Pulse: Medium
		98–103	Closing Pulse: Medium ... Slow
		104	Closing Pulse: Slow
		105–109	Shutter: Open
		110	Strobe Random: Fast
		111–116	Strobe Random: Fast ... Medium
		117	Strobe Random: Medium
		118–123	Strobe Random: Medium ... Slow
		124	Strobe Random: Slow
		125–129	Shutter: Open
		130	Random Opening Pulse: Fast
		131–136	Random Opening Pulse: Fast ... Medium
		137	Random Opening Pulse: Medium
		138–143	Random Opening Pulse: Medium ... Slow
		144	Random Opening Pulse: Slow
		145–255	Shutter: Open
2	Dimmer	0–63	Closed ... 25%
		64–127	25% ... 50%
		128–191	50% ... 75%
		192–255	75% ... Open
		255	Open
3	Dimmer Fine	0–255	Fine adjustment of CH 2
4	Cyan	0	Min
		1–63	Min ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... Max
		255	Max
5	Magenta	0	Min
		1–63	Min ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... Max
		255	Max
6	Yellow	0	Min

CH	Function	DMX	Description
6	Yellow (continued)	1–63	Min … 25%
		64	25%
		65–127	25% … 50%
		128	50%
		129–191	50% … 75%
		192	75%
		193–254	75% … Max
		255	Max
7	Colors	0–6	Color Selection: Open
		7–12	Color Selection: Light Blue
		13–18	Color Selection: Dark Green
		19–25	Color Selection: Pink
		26–31	Color Selection: Orange
		32–37	Color Selection: Light Green
		38–44	Color Selection: Light Magenta
		45–50	Color Selection: Light Yellow
		51–56	Color Selection: Dark Blue
		57–63	Color Selection: Dark Red
		64–66	Color Wheel Index: Open
		67–73	Color Wheel Index: Light Blue
		74–80	Color Wheel Index: Dark Green
		81–87	Color Wheel Index: Pink
		88–94	Color Wheel Index: Orange
		95–101	Color Wheel Index: Light Green
		102–108	Color Wheel Index: Light Magenta
		109–115	Color Wheel Index: Light Yellow
		116–122	Color Wheel Index: Dark Blue
		123–127	Color Wheel Index: Dark Red
		128	CW Max
		129–158	CW Max … CW Med
		159	CW Med
		160–189	CW Med … CW Min
		190	CW Min
		191–192	Color Wheel Spin: Stop
		193	CCW Min
		194–223	CCW Min … CCW Med
		224	CCW Med
		225–254	CCW Med … CCW Max
		255	CCW Max
8	Gobo	0–7	Gobo 1 Selection: Open
		8–15	Gobo 1 Selection: Gobo 1
		16–23	Gobo 1 Selection: Gobo 2

CH	Function	DMX	Description
8	Gobo (continued)	24–31	Gobo 1 Selection: Gobo 3
		32–39	Gobo 1 Selection: Gobo 4
		40–47	Gobo 1 Selection: Gobo 5
		48–55	Gobo 1 Selection: Gobo 6
		56–63	Gobo 1 Selection: Gobo 7
		64–72	Gobo 1 Shake: Gobo 1 (1–5 Hz)
		73–81	Gobo 1 Shake: Gobo 2 (1–5 Hz)
		82–90	Gobo 1 Shake: Gobo 3 (1–5 Hz)
		91–99	Gobo 1 Shake: Gobo 4 (1–5 Hz)
		100–108	Gobo 1 Shake: Gobo 5 (1–5 Hz)
		109–117	Gobo 1 Shake: Gobo 6 (1–5 Hz)
		118–127	Gobo 1 Shake: Gobo 7 (1–5 Hz)
		128	CW Max
		129–158	CW Max ... CW Med
		159	CW Med
		160–189	CW Med ... CW Min
		190	CW Min
		191–192	Gobo 1 Wheel Rotation: Stop
		193	CCW Min
		194–223	CCW Min ... CCW Med
		224	CCW Med
		225–254	CCW Med ... CCW Max
		255	CCW Max
9	Gobo Rotation	0	0 deg
		1–30	0 deg ... 90 deg
		31	90 deg
		32–62	90 deg ... 180 deg
		63	180 deg
		64–94	180 deg ... 270 deg
		95	270 deg
		96–126	270 deg ... 360 deg
		127	360 deg
		128	CCW Max
		129–158	CCW Max ... CCW Med
		159	CCW Med
		160–189	CCW Med ... CCW Min
		190	CCW Min
		191–192	Gobo 1 Rotate: Stop
		193	CW Min
		194–223	CW Min ... CW Med
		224	CW Med
		225–254	CW Med ... CW Max

CH	Function	DMX	Description
9	Gobo Rotation (continued)	255	CW Max
10	Gobo 2	0–6	Gobo 2 Selection: Open
		7–12	Gobo 2 Selection: Gobo 1
		13–18	Gobo 2 Selection: Gobo 2
		19–25	Gobo 2 Selection: Gobo 3
		26–31	Gobo 2 Selection: Gobo 4
		32–37	Gobo 2 Selection: Gobo 5
		38–44	Gobo 2 Selection: Gobo 6
		45–50	Gobo 2 Selection: Gobo 7
		51–56	Gobo 2 Selection: Gobo 8
		57–63	Gobo 2 Selection: Gobo 9
		64–70	Gobo 2 Shake: Gobo 1 (1–5 Hz)
		71–77	Gobo 2 Shake: Gobo 2 (1–5 Hz)
		78–84	Gobo 2 Shake: Gobo 3 (1–5 Hz)
		85–91	Gobo 2 Shake: Gobo 4 (1–5 Hz)
		92–98	Gobo 2 Shake: Gobo 5 (1–5 Hz)
		99–105	Gobo 2 Shake: Gobo 6 (1–5 Hz)
		106–112	Gobo 2 Shake: Gobo 7 (1–5 Hz)
		113–119	Gobo 2 Shake: Gobo 8 (1–5 Hz)
		120–127	Gobo 2 Shake: Gobo 9 (1–5 Hz)
		128	CW Max
		129–158	CW Max ... CW Med
		159	CW Med
		160–189	CW Med ... CW Min
		190	CW Min
		191–192	Gobo 2 Wheel Rotation: Stop
		193	CCW Min
		194–223	CCW Min ... CCW Med
		224	CCW Med
		225–254	CCW Med ... CCW Max
		255	CCW Max
11	Prism	0–10	Prism: Open
		11–127	Prism
		128–131	Macro 1
		132–135	Macro 2
		136–139	Macro 3
		140–143	Macro 4
		144–147	Macro 5
		148–151	Macro 6
		152–155	Macro 7
		156–159	Macro 8
		160–163	Macro 9

CH	Function	DMX	Description
11	Prism (continued)	164–167	Macro 10
		168–171	Macro 11
		172–175	Macro 12
		176–179	Macro 13
		180–183	Macro 14
		184–187	Macro 15
		188–191	Macro 16
		192–195	Macro 17
		196–199	Macro 18
		200–203	Macro 19
		204–207	Macro 20
		208–211	Macro 21
		212–215	Macro 22
		216–219	Macro 23
		220–223	Macro 24
		224–227	Macro 25
		228–231	Macro 26
		232–235	Macro 27
		236–239	Macro 28
		240–243	Macro 29
		244–247	Macro 30
		248–251	Macro 31
		252–255	Macro 32
12	Prism Rotation	0	0 deg
		1–30	0 deg ... 90 deg
		31	90 deg
		32–62	90 deg ... 180 deg
		63	180 deg
		64–94	180 deg ... 270 deg
		95	270 deg
		96–126	270 deg ... 360 deg
		127	360 deg
		128	CW Max
		129–158	CW Max ... CW Med
		159	CW Med
		160–189	CW Med ... CW Min
		190	CW Min
		191–192	Prism Rotate: Stop
		193	CCW Min
		194–223	CCW Min ... CCW Med
		224	CCW Med
		225–254	CCW Med ... CCW Max

CH	Function	DMX	Description
12	Prism Rotation (continued)	255	CCW Max
13	Iris	0	Open
		1–63	Open ... 25%
		64	25%
		65–127	25% ... 50%
		128	50%
		129–191	50% ... 75%
		192	75%
		193–254	75% ... Closed
		255	Closed
14	Zoom	0	Narrow
		1–127	Narrow ... Medium
		128	Medium
		129–254	Medium ... Wide
		255	Wide
15	Focus	0	Far
		1–127	Far ... Medium
		128	Medium
		129–254	Medium ... Near
		255	Near
16	Pan	0–127	Min ... Center
		128–255	Center ... Max
		255	Max
17	Pan Fine	0–255	Fine adjustment of CH 16
18	Tilt	0–127	Min ... Center
		128–255	Center ... Max
		255	Max
19	Tilt Fine	0–255	Fine adjustment of CH 18
20	Speed Pan/Tilt		Movement Speed
		0	Max
		1–127	Max ... Med
		128	Med
		129–254	Med ... Min
		255	Min
21	Control	0–69	Idle
		70–79	BlackOut PanTilt Enable
		80–89	BlackOut PanTilt Disable
		90–99	BlackOut Color Enable
		100–109	BlackOut Color Disable
		110–119	BlackOut Gobo Enable
		120–129	BlackOut Gobo Disable
		130–199	No Function 1

CH	Function	DMX	Description
21	Control (continued)	200–209	Reset Entire Fixture (5s)
		210–219	Reset Effects Only (5s)
		220–229	Reset Pan and Tilt Only (5s)
		230–255	No Function 2

10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	260 W
Luminous flux	9,500 lm
Color temperature	6,500 K
Color rendering index (CRI)	74
Optics	
Zoom	11.2–23.6°
Movement	
Pan	540°
Tilt	246°
Control	
DMX connection	5-pin XLR IN/OUT, 3-pin XLR IN/OUT
RDM	yes (manufacturer ID 0x4D50, device model ID 0x0087)
Electrical	
Power supply	100–240 V, 50/60 Hz
Power consumption	375 W
Power connectors	powerCONTRUE1TOP IN
Dimensions and construction	
Weight	17 kg
Operating environment	
Operating temperature	0 to 40 °C

Speeds and ranges

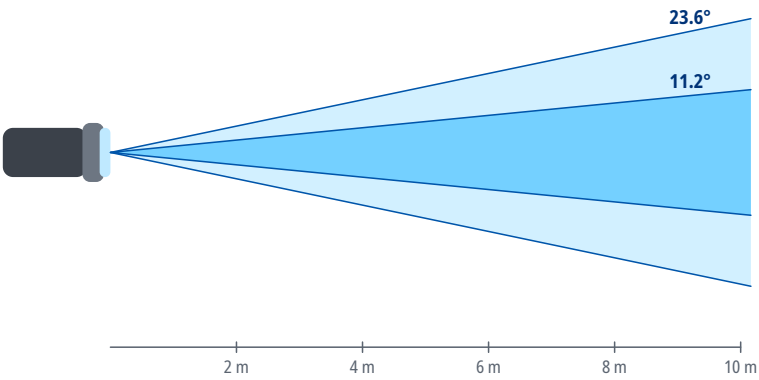
Parameter	Value
Strobe frequency	1–15 Hz
Color wheel rotation	up to 1406 °/s (234 rpm)
Gobo wheel 1 rotation	up to 914 °/s (152 rpm)
Gobo wheel 2 rotation	up to 724 °/s (121 rpm)
Gobo 1 rotation	up to 628 °/s (105 rpm)
Prism rotation	up to 362 °/s (60 rpm)

Dimensions

weight 17 kg



Spot diameter



Distance	Ø 11.2°	Ø 23.6°
2 m	0.39 m	0.84 m
4 m	0.78 m	1.7 m
6 m	1.2 m	2.5 m
8 m	1.6 m	3.3 m
10 m	2 m	4.2 m
15 m	2.9 m	6.3 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.

Problem	Remedy
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.