DMX REFERENCE

Proteus Brutus FS

Elation



Manufacturer	Elation
GDTF file	Elation_Proteus_Brutus_FS_89495.gdtf
GDTF revision	Release 25-13-03 · 2025-03-13
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1 About this manual

This document describes the Proteus Brutus FS by Elation. It was compiled from the GDTF file Elation_Proteus_Brutus_FS_89495.gdtf from the GDTF-Share library.

File revision: “Release 25-13-03”.

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 Elation; 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	54 kg
Ingress protection	IP66

DMX modes

Mode	Channels	Units in one universe	First start addresses
Extended	36	14	1, 37, 73, 109, ...
Standard	27	18	1, 28, 55, 82, ...

No light? Check these channels

- Extended: CH 24 Shutter at 0–31, 96–127, 160–191 or 224–255 “Open”
- Standard: CH 17 Shutter at 0–31, 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 IP66 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.

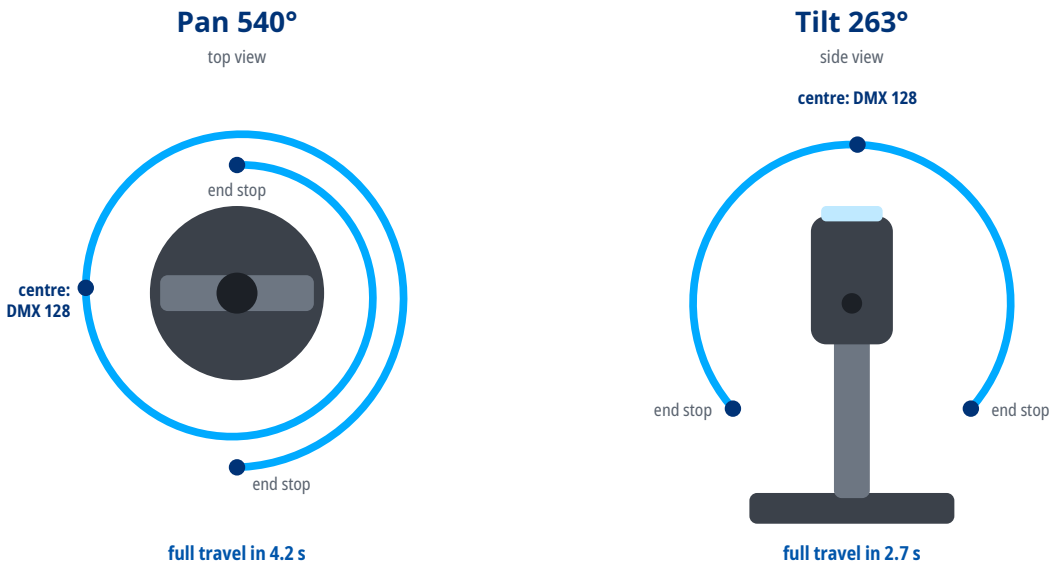
> ⚠ **WARNING**
>
> - The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
> - Keep yourself and any objects out of the range of movement. While the device is switched on, do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

Description in the GDTF file

“The PROTEUS BRUTUS FS is an extremely bright IP66 rated LED Follow Spot fixture offering high intensity and excellent color quality at long distances. Operated manually with removable handles or remotely through one of the many automated remote tracking systems in the market, this purpose build fixture is ideal for any indoor and outdoor application that requires precise and smooth operation, flexible color control and superior output in medium to long throw follow spot applications.”

Range of movement



Full-travel times as stated in the GDTF file.

5 Installation

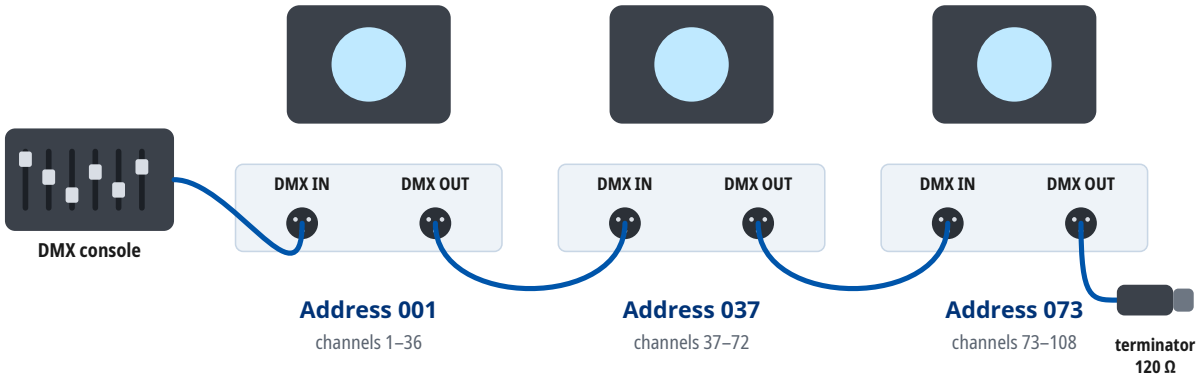
⚠ **WARNING**

- 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: 54 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 36 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

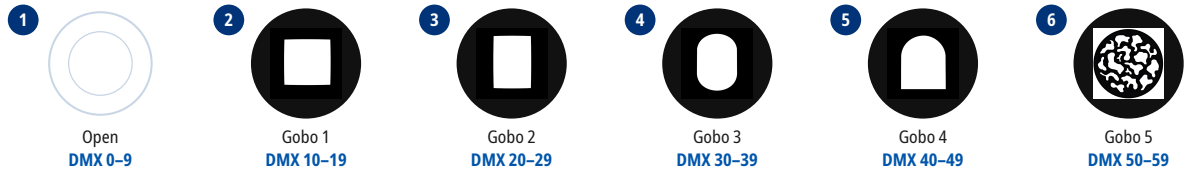
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Extended”: 36.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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, 37, 73, 109.
- 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

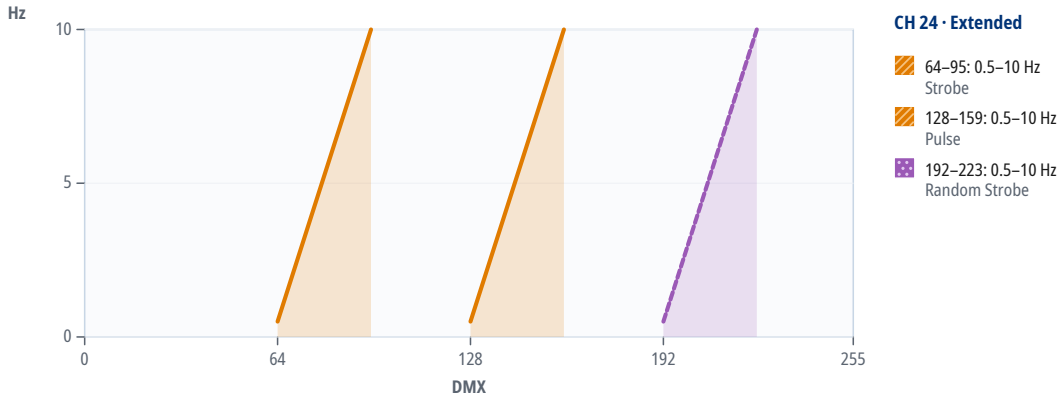
Functions in each DMX mode

	Extended 36 channels	Standard 27 channels
Pan / Tilt	1, 3	1, 3
Dimmer	25	18
Shutter / strobe	24	17
Color mixing	5, 7, 9	5–7
Color temperature	11	8
Gobo wheel	15	10
Gobo rotation	16	11
Frost	30	22
Zoom	20, 32	15, 24
Focus	18, 22	13
Iris	28	21
Effects / macros	13	9

Gobo wheel

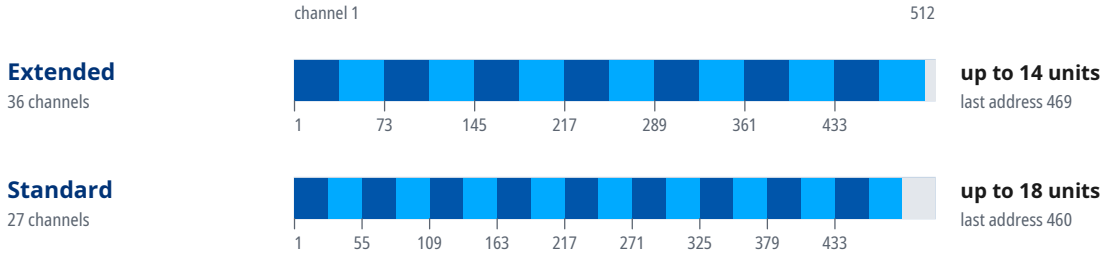


Strobe rate



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	181	11	361	16	U2 · 37
2	37	7	217	12	397	17	U2 · 73
3	73	8	253	13	433	18	U2 · 109
4	109	9	289	14	469	19	U2 · 145
5	145	10	325	15	U2 · 1	20	U2 · 181

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.

RDM personalities

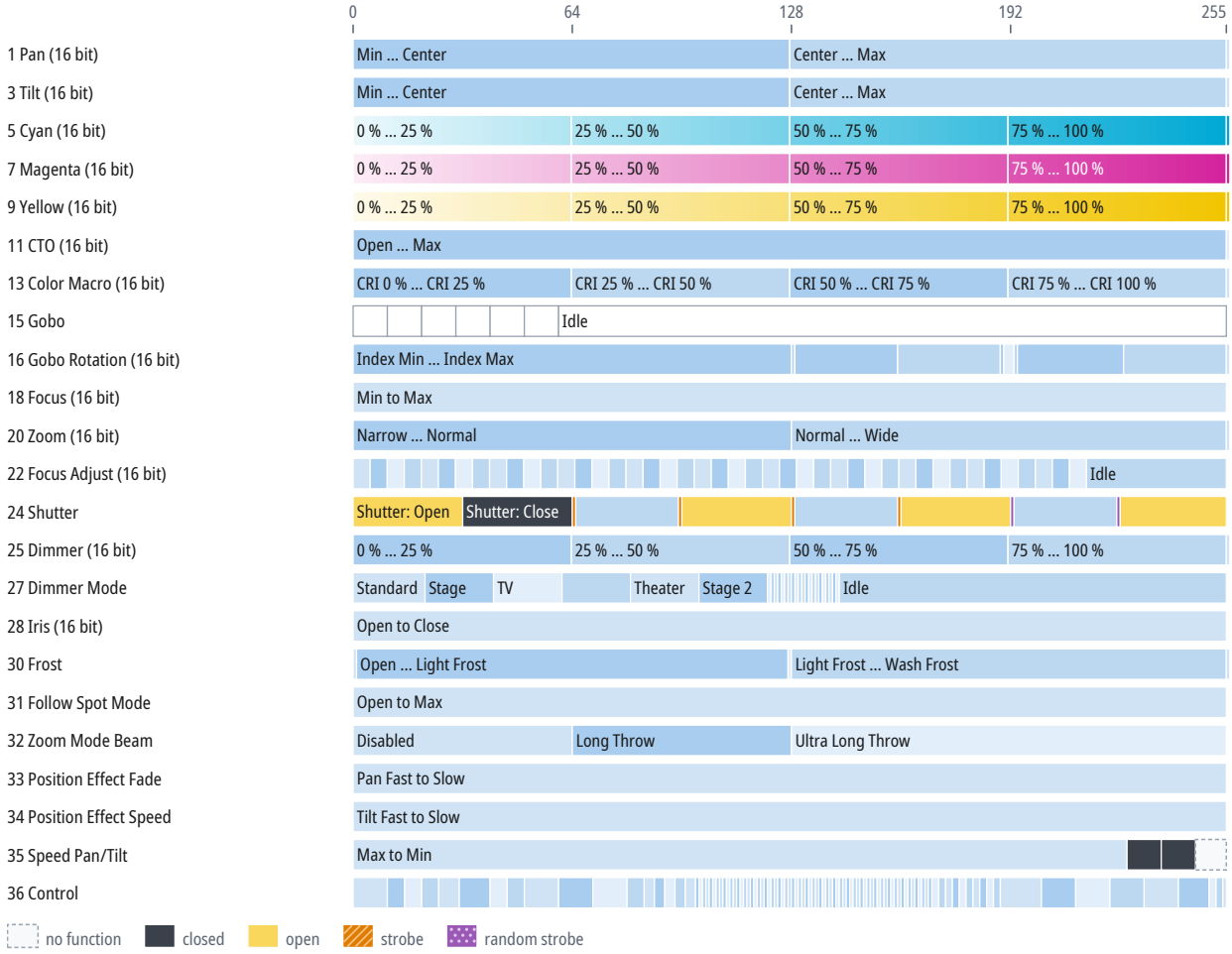
Mode	Channels	RDM personality
Extended	36	2
Standard	27	1

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 24 Shutter at 0–31, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 5 Cyan 0, CH 7 Magenta 0, CH 9 Yellow 0, CH 24 Shutter 0, CH 25 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan	0–127	Min ... Center
		127	Center
		128–255	Center ... Max
		255	Max
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt	0–127	Min ... Center
		127	Center
		128–255	Center ... Max
		255	Max
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Cyan	0–63	0 % ... 25 %
		63	25 %

CH	Function	DMX	Description
5	Cyan (continued)	64–127	25 % … 50 %
		127	50 %
		128–191	50 % … 75 %
		191	75 %
		192–255	75 % … 100 %
		255	100 %
6	Cyan Fine	0–255	Fine adjustment of CH 5
7	Magenta	0–63	0 % … 25 %
		63	25 %
		64–127	25 % … 50 %
		127	50 %
		128–191	50 % … 75 %
		191	75 %
		192–255	75 % … 100 %
		255	100 %
8	Magenta Fine	0–255	Fine adjustment of CH 7
9	Yellow	0–63	0 % … 25 %
		63	25 %
		64–127	25 % … 50 %
		127	50 %
		128–191	50 % … 75 %
		191	75 %
		192–255	75 % … 100 %
		255	100 %
10	Yellow Fine	0–255	Fine adjustment of CH 9
11	CTO	0–255	Open … Max
		255	Max
12	CTO Fine	0–255	Fine adjustment of CH 11
13	Color Macro	0–63	CRI 0 % … CRI 25 %
		63	CRI 25 %
		64–127	CRI 25 % … CRI 50 %
		127	CRI 50 %
		128–191	CRI 50 % … CRI 75 %
		191	CRI 75 %
		192–255	CRI 75 % … CRI 100 %
		255	CRI 100 %
14	Color Macro Fine	0–255	Fine adjustment of CH 13
15	Gobo	0–9	Open
		10–19	Gobo 1
		20–29	Gobo 2
		30–39	Gobo 3
		40–49	Gobo 4

CH	Function	DMX	Description
15	Gobo (continued)	50–59	Gobo 5
		60–255	Idle
16	Gobo Rotation	0–128	Index Min … Index Max
		128	Index Max
		128–129	Gobo Wheel 1 Index
		129–159	CW Fast … CW Med
		159–189	CW Med … CW Slow
		189–190	CW Slow … Rot Stop
		190–193	Rot Stop
		193–194	Rot Stop … CCW Slow
		194–225	CCW Slow … CCW Med
		225–255	CCW Med … CCW Fast
		255	CCW Fast
17	Gobo Rotation Fine	0–255	Fine adjustment of CH 16
18	Focus	0–255	Min to Max
19	Focus Fine	0–255	Fine adjustment of CH 18
20	Zoom	0–128	Narrow … Normal
		128–255	Normal … Wide
		255	Wide
21	Zoom Fine	0–255	Fine adjustment of CH 20
22	Focus Adjust		Auto Focus
		0–4	Auto Focus Off
		5–9	5m
		10–14	5_2m
		15–19	5_4m
		20–24	5_6m
		25–29	5_8m
		30–34	6m
		35–39	6_3m
		40–44	6_5m
		45–49	6_8m
		50–54	7m
		55–59	7_3m
		60–64	7_5m
		65–69	7_7m
		70–74	8m
		75–79	8_3m
		80–84	8_5m
		85–89	8_7m
		90–94	9m
		95–99	9_3m
		100–104	9_5m

CH	Function	DMX	Description
22	Focus Adjust (continued)	105–109	9_8m
		110–114	10m
		115–119	10_5m
		120–124	11m
		125–129	11_5
		130–134	12m
		135–139	12_5m
		140–144	13m
		145–149	13_5m
		150–154	14m
		155–159	14_5m
		160–164	15m
		165–169	15_5m
		170–174	16m
		175–179	16_5m
		180–184	17m
		185–189	17_5m
		190–194	18m
		195–199	18_5m
		200–204	19m
		205–209	19_5
		210–214	20m
		215–255	Idle
23	Focus Adjust Fine	0–255	Fine adjustment of CH 22
24	Shutter	0–31	Shutter: Open
		32–63	Shutter: Close
		64	Strobe Slow
		65–94	Strobe Slow ... Strobe Fast
		95	Strobe Fast
		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 Slow
		193–222	Random Strobe Slow ... Random Strobe Fast
		223	Random Strobe Fast
		224–255	Shutter Open__: Open
25	Dimmer	0–63	0 % ... 25 %
		63	25 %
		64–127	25 % ... 50 %
		127	50 %

CH	Function	DMX	Description
25	Dimmer (continued)	128–191	50 % … 75 %
		191	75 %
		192–255	75 % … 100 %
		255	100 %
26	Dimmer Fine	0–255	Fine adjustment of CH 25
27	Dimmer Mode	0–20	Standard
		21–40	Stage
		41–60	TV
		61–80	Architectural
		81–100	Theater
		101–120	Stage 2
		121	0s
		122	0_1s
		123	0_2s
		124	0_3s
		125	0_4s
		126	0_5s
		127	0_6s
		128	0_7s
		129	0_8s
		130	0_9s
		131	1s
		132	1_5s
		133–141	2…10s
		142–255	Idle
28	Iris	0–255	Open to Close
29	Iris Fine	0–255	Fine adjustment of CH 28
30	Frost	0	Open
		1–126	Open … Light Frost
		127	Light Frost
		128–254	Light Frost … Wash Frost
		255	Wash Frost
31	Follow Spot Mode		Flat Field
		0–255	Open to Max
32	Zoom Mode Beam		Beam mode
		0–63	Disabled
		64–127	Long Throw
		128–255	Ultra Long Throw
33	Position Effect Fade		Pan Acceleration
		0–255	Pan Fast to Slow
34	Position Effect Speed		Tilt Acceleration
		0–255	Tilt Fast to Slow

CH	Function	DMX	Description
35	Speed Pan/Tilt	0–225	Max to Min
		226–235	Blackout By Movement
		236–245	Blackout By All Wheel changes
		246–255	No Function
36	Control	0–9	Iris mode: Idle
		10–14	Automatic
		15–19	Intensity Limit 90%
		20–24	Intensity Limit 70%
		25–30	Intensity Limit 60%
		31–39	Iris mode: Idle
		40–44	Fan Mute
		45–49	Fan Studio
		50–59	Fan Low
		60–69	Fan High
		70–79	Fan Auto(default)
		80–84	Fixture Reset
		85–87	Pan Tilt
		88–90	Color
		91–93	Reset: Idle
		94–96	Focus Zoom
		97–99	Other Features
		100	900Hz
		101	910Hz
		102	920Hz
		103	930Hz
		104	940Hz
		105	950Hz
		106	960Hz
		107	970Hz
		108	980Hz
		109	990Hz
		110	1000Hz
		111	1010Hz
		112	1020Hz
		113	1030Hz
		114	1040Hz
		115	1050Hz
		116	1060Hz
		117	1070Hz
		118	1080Hz
		119	1090Hz
		120	1100Hz

CH	Function	DMX	Description
36	Control (continued)	121	1110Hz
		122	1120Hz
		123	1130Hz
		124	1140Hz
		125	1150Hz
		126	1160Hz
		127	1170Hz
		128	1180Hz
		129	1190Hz
		130	1200Hz
		131	1210Hz
		132	1220Hz
		133	1230Hz
		134	1240Hz
		135	1250Hz
		136	1260Hz
		137	1270Hz
		138	1280Hz
		139	1290Hz
		140	1300Hz
		141	1310Hz
		142	1320Hz
		143	1330Hz
		144	1340Hz
		145	1350Hz
		146	1360Hz
		147	1370Hz
		148	1380Hz
		149	1390Hz
		150	1400Hz
		151	1410Hz
		152	1420Hz
		153	1430Hz
		154	1440Hz
		155	1450Hz
		156	1460Hz
		157	1470Hz
		158	1480Hz
		159	1490Hz
		160	1500Hz
		161	2500Hz
		162	4000Hz

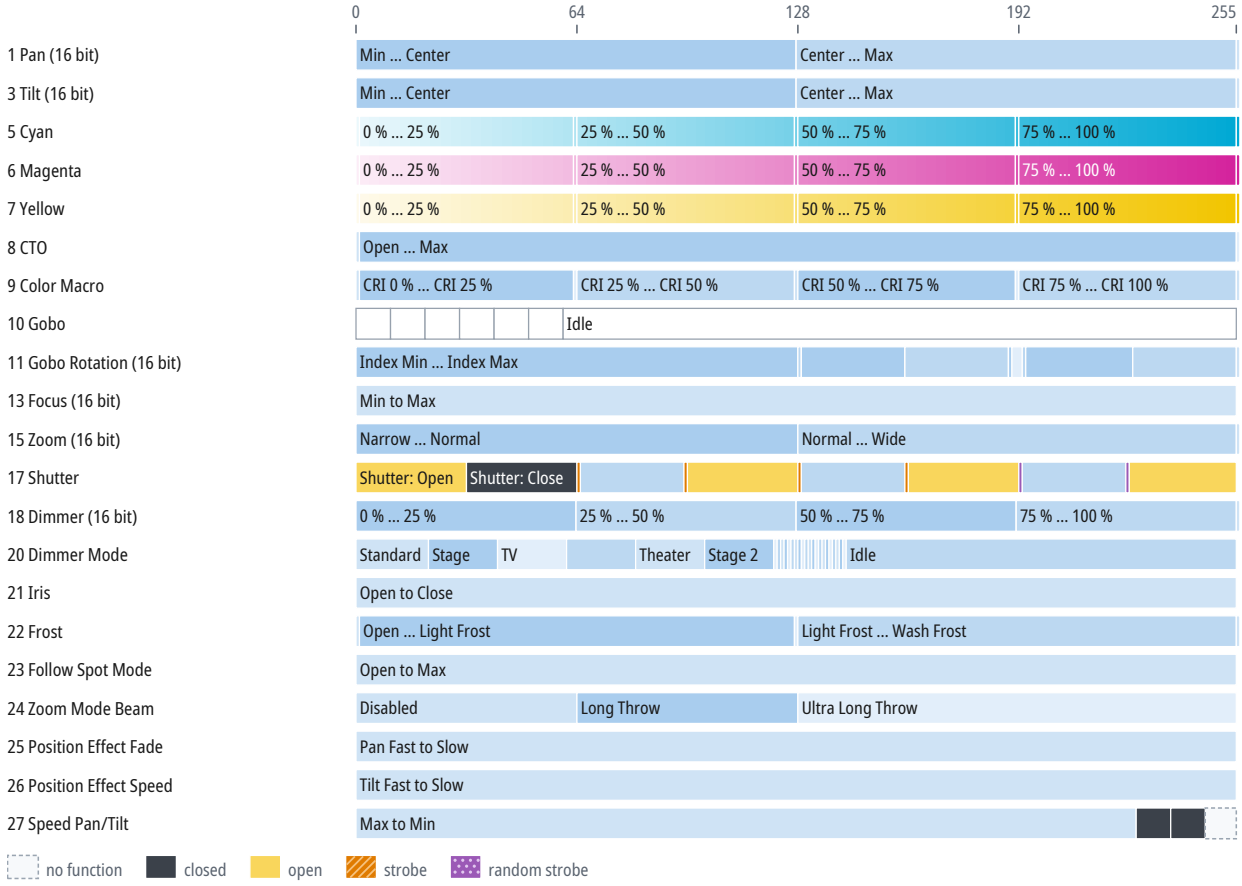
CH	Function	DMX	Description
36	Control (continued)	163	5000Hz
		164	6000Hz
		165	10000Hz
		166	15000Hz
		167	20000Hz
		168	25000Hz
		169–170	CMY Smooth
		171–172	CMY Fast
		173–174	Hibernation Off
		175–176	Hibernation On
		177–178	Sun Protection On
		179–180	Sun Protection Off
		181–182	Pan Tilt Smooth
		183–184	Pan Tilt Fast
		185–186	Pan Tilt Break Smooth
		187–188	Pan Tilt Break Fast
		189–200	Pan / Tilt Speed: Idle
		201–210	Linear
		211–220	Square
		221–230	Inverse Square
		231–240	S Curve
		241–249	Dimmer Curve: Idle
		250–251	Display ON
		252–253	Display OFF
		254–255	Display option: Idle

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 17 Shutter at 0–31, 96–127, 160–191 or 224–255 “Open”. The GDTF file gives these values for a console's Highlight function: CH 5 Cyan 0, CH 6 Magenta 0, CH 7 Yellow 0, CH 17 Shutter 0, CH 18 Dimmer 255.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Extended” (p. 10)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Extended” (p. 10)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Cyan	0	0 %
		1–62	0 % ... 25 %
		63	25 %
		64–126	25 % ... 50 %
		127	50 %
		128–190	50 % ... 75 %
		191	75 %
		192–254	75 % ... 100 %
		255	100 %

CH	Function	DMX	Description
6	Magenta	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
7	Yellow	0	0 %
		1–62	0 % … 25 %
		63	25 %
		64–126	25 % … 50 %
		127	50 %
		128–190	50 % … 75 %
		191	75 %
		192–254	75 % … 100 %
		255	100 %
8	CTO	0	Open
		1–254	Open … Max
		255	Max
9	Color Macro	0	CRI 0 %
		1–62	CRI 0 % … CRI 25 %
		63	CRI 25 %
		64–126	CRI 25 % … CRI 50 %
		127	CRI 50 %
		128–190	CRI 50 % … CRI 75 %
		191	CRI 75 %
		192–254	CRI 75 % … CRI 100 %
		255	CRI 100 %
10	Gobo		Same as CH 15 in the mode “Extended” (p. 11)
11	Gobo Rotation		Same as CH 16 in the mode “Extended” (p. 12)
12	Gobo Rotation Fine	0–255	Fine adjustment of CH 11
13	Focus	0–255	Min to Max
14	Focus Fine	0–255	Fine adjustment of CH 13
15	Zoom		Same as CH 20 in the mode “Extended” (p. 12)
16	Zoom Fine	0–255	Fine adjustment of CH 15
17	Shutter		Same as CH 24 in the mode “Extended” (p. 13)
18	Dimmer		Same as CH 25 in the mode “Extended” (p. 13)
19	Dimmer Fine	0–255	Fine adjustment of CH 18
20	Dimmer Mode		Same as CH 27 in the mode “Extended” (p. 14)
21	Iris	0–255	Open to Close

CH	Function	DMX	Description
22	Frost		Same as CH 30 in the mode “Extended” (p. 14)
23	Follow Spot Mode		Same as CH 31 in the mode “Extended” (p. 14)
24	Zoom Mode Beam		Same as CH 32 in the mode “Extended” (p. 14)
25	Position Effect Fade		Same as CH 33 in the mode “Extended” (p. 14)
26	Position Effect Speed		Same as CH 34 in the mode “Extended” (p. 14)
27	Speed Pan/Tilt		Same as CH 35 in the mode “Extended” (p. 15)

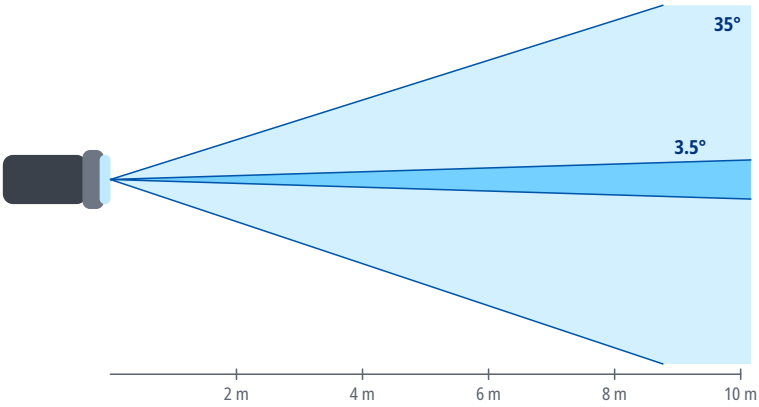
10 Technical specifications

Parameter	Value
Light	
Light source	LED
LED power	1,200 W
Luminous flux	96,000 lm
Color temperature	7,100 K
Color rendering index (CRI)	70
Optics	
Zoom	3.5–35°
Movement	
Pan	540°
Tilt	263°
Control	
DMX connection	5-pin XLR IN/OUT
RJ45 connectors	RJ45 IN/OUT
RDM	yes (manufacturer ID 0x22A6, device model ID 0x071E)
Electrical	
Power connectors	powerCON TRUE1
Dimensions and construction	
Weight	54 kg
Operating environment	
Ingress protection	IP66
Meaning of the IP code (IEC 60529)	Dust-tight; protected against powerful water jets
Operating temperature	-20 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0.5–10 Hz
Gobo rotation	up to 360 °/s (60 rpm)

Spot diameter



Distance	Ø 3.5°	Ø 35°
2 m	0.12 m	1.3 m
4 m	0.24 m	2.5 m
6 m	0.37 m	3.8 m
8 m	0.49 m	5 m
10 m	0.61 m	6.3 m
15 m	0.92 m	9.5 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.