DMX REFERENCE

GFS1200 IP

Terbly



Manufacturer	Terbly
GDTF file	Terbly_GFS1200_IP_124909.gdtf
GDTF revision	BS Special version · 2026-01-15
Generated	2026-11-24

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1 About this manual

This document describes the GFS1200 IP by Terbly. It was compiled from the GDTF file Terbly_GFS1200_IP_124909.gdtf from the GDTF-Share library.

File revision: “BS Special version”.

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 Terbly; 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

DMX modes

Mode	Channels	Units in one universe	First start addresses
Standard	25	20	1, 26, 51, 76, ...
Extended	33	15	1, 34, 67, 100, ...

No light? Check these channels

- Standard: CH 5 Shutter at 0–31, 96–127, 160–191 or 224–255 “Open”
- Extended: CH 6 Shutter at 0–31, 96–127, 160–191 or 224–255 “Open”


Read the manual before use


Do not stare into the light


Indoor use only

3 Safety instructions



Read the manual before use



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

- 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

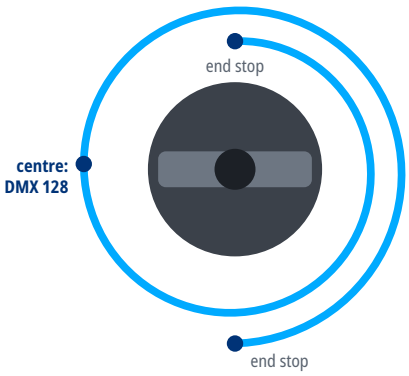
- The moving parts of the device (for example the head or arms) can move quickly and unexpectedly at any time – after power-on, during a reset, or on a command from the controller.
- Keep yourself and any objects out of the range of movement. While the device is switched on, do not touch the moving parts, 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°

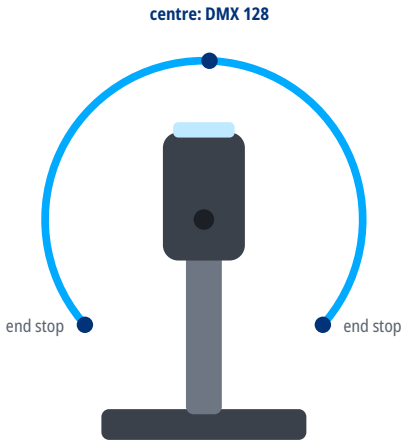
top view



full travel in 4.2 s

Tilt 263°

side view



full travel in 2.7 s

Full-travel times as stated in the GDTF file.

5 Installation

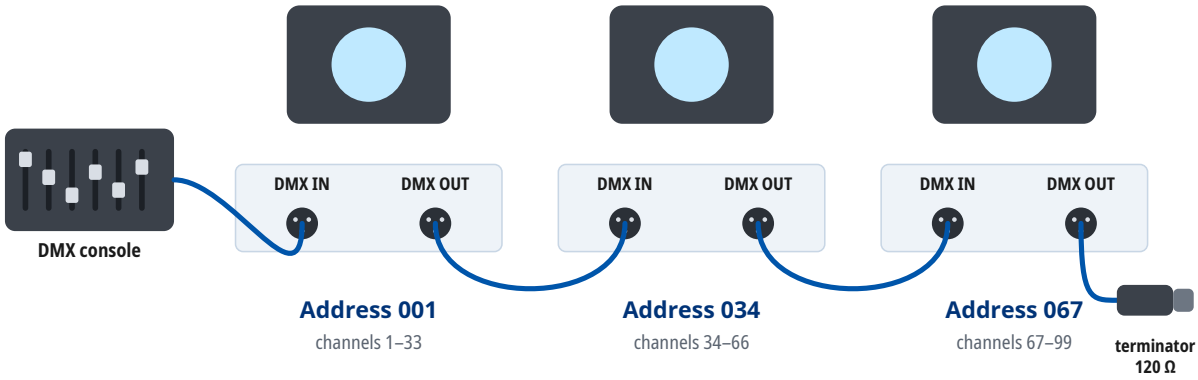
⚠ WARNING

- 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: 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 33 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

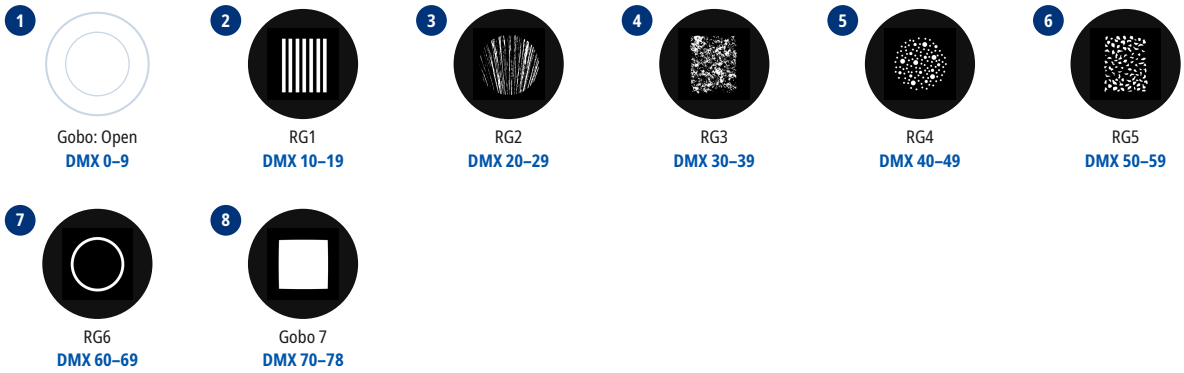
- The device occupies as many consecutive channels in the DMX universe as the selected DMX mode uses, starting at the set start address.
- Number of channels occupied in the DMX mode “Extended”: 33.
- Choose start addresses so that the channels of individual devices do not overlap and the last occupied 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, 34, 67, 100.
- The DMX mode set on the device must match the fixture profile (personality) used in the controller.

8 Functions at a glance

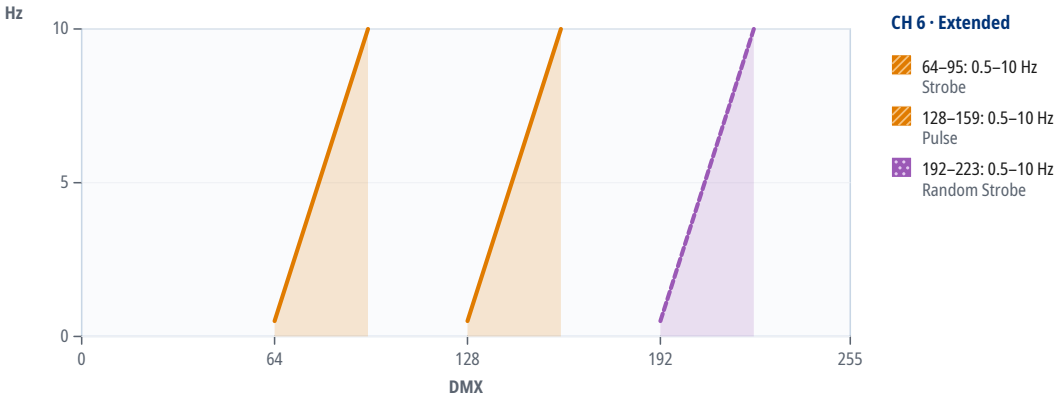
Functions in each DMX mode

	Standard 25 channels	Extended 33 channels
Pan / Tilt	1, 3	1, 3
Dimmer	6	7
Shutter / strobe	5	6
Color mixing	13–15	14, 16, 18
Color temperature	16	20
Gobo wheel	18	24
Gobo rotation	19	25
Frost	21	29
Zoom	9	10
Focus	11	12
Iris	20	27

Gobo wheel

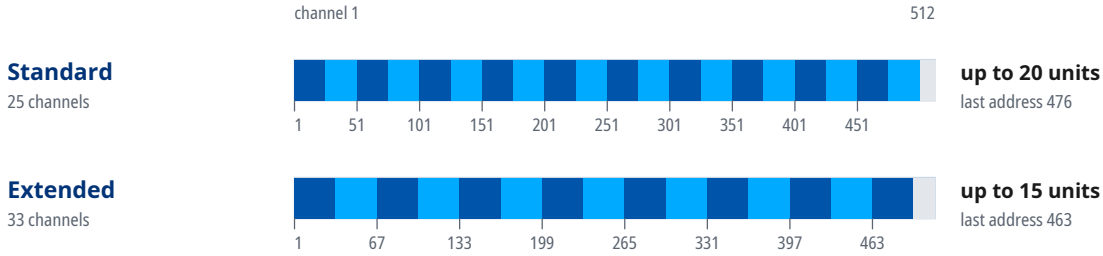


Strobe rate



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	166	11	331	16	U2 · 1
2	34	7	199	12	364	17	U2 · 34
3	67	8	232	13	397	18	U2 · 67
4	100	9	265	14	430	19	U2 · 100
5	133	10	298	15	463	20	U2 · 133

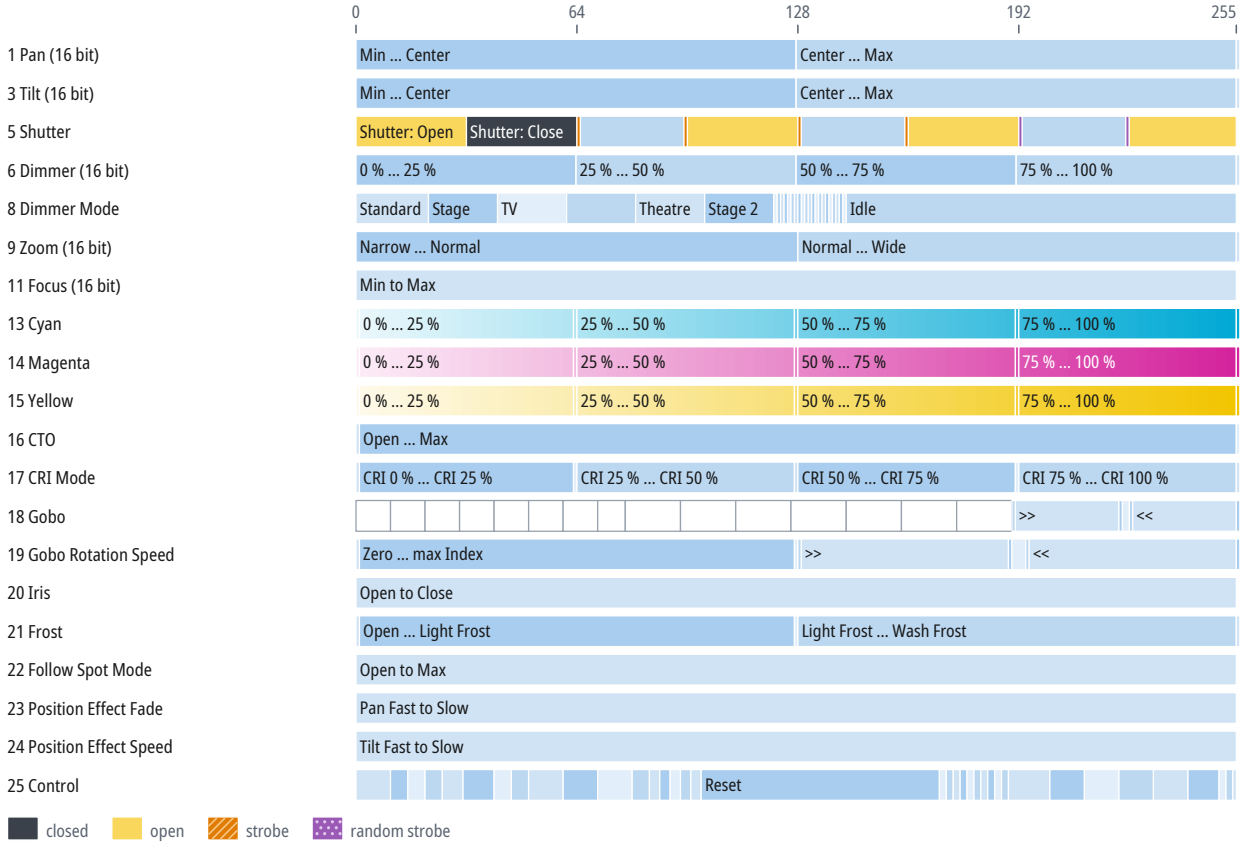
Where a DMX universe is full, the next units continue in the next universe: “U2 · 1” is address 1 in the second universe, counted from the universe of the first unit.

Mode 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 5 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 Shutter 0, CH 6 Dimmer 255, CH 13 Cyan 0, CH 14 Magenta 0, CH 15 Yellow 0.

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	Shutter	0–31	Shutter: Open
		32–63	Shutter: Close
		64	Strobe Slow
		65–94	Strobe Slow ... Strobe Fast

CH	Function	DMX	Description
5	Shutter (continued)	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
6	Dimmer	0–63	0 % ... 25 %
		63	25 %
		64–127	25 % ... 50 %
		127	50 %
		128–191	50 % ... 75 %
		191	75 %
		192–255	75 % ... 100 %
		255	100 %
7	Dimmer Fine	0–255	Fine adjustment of CH 6
8	Dimmer Mode	0–20	Standard
		21–40	Stage
		41–60	TV
		61–80	Architectural
		81–100	Theatre
		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
9	Zoom	0–128	Narrow ... Normal
		128–255	Normal ... Wide
		255	Wide

CH	Function	DMX	Description
10	Zoom Fine	0–255	Fine adjustment of CH 9
11	Focus	0–255	Min to Max
12	Focus Fine	0–255	Fine adjustment of CH 11
13	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 %
14	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 %
15	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 %
16	CTO	0	Open
		1–254	Open … Max
		255	Max
17	CRI Mode	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 %

CH	Function	DMX	Description
18	Gobo	0–9	Gobo: Open
		10–19	RG1
		20–29	RG2
		30–39	RG3
		40–49	RG4
		50–59	RG5
		60–69	RG6
		70–77	RG7
		78–93	RG1 Shake (1–10 Hz)
		94–109	RG2 Shake (1–10 Hz)
		110–125	RG3 Shake (1–10 Hz)
		126–141	RG4 Shake (1–10 Hz)
		142–157	RG5 Shake (1–10 Hz)
		158–173	RG6 Shake (1–10 Hz)
		174–189	RG7 Shake (1–10 Hz)
		190	>>>
		191–220	>> (281.3–1.08 °/s)
		221	>
		222–223	Gobo Wheel 1 Spin: Stop
		224	<
		225–254	<< (1.08–281.3 °/s)
		255	<<<
19	Gobo Rotation Speed	0	Zero
		1–126	Zero ... max Index
		127	Max Index
		128	>>>
		129–188	>> (1055–0.84 °/s)
		189	>
		190–193	Rotate: Stop
		194	<
		195–254	<< (0.84–1055 °/s)
		255	<<<
20	Iris	0–255	Open to Close
21	Frost	0	Open
		1–126	Open ... Light Frost
		127	Light Frost
		128–254	Light Frost ... Wash Frost
		255	Wash Frost
22	Follow Spot Mode		Flat Field
		0–255	Open to Max
23	Position Effect Fade		Pan Acceleration
		0–255	Pan Fast to Slow

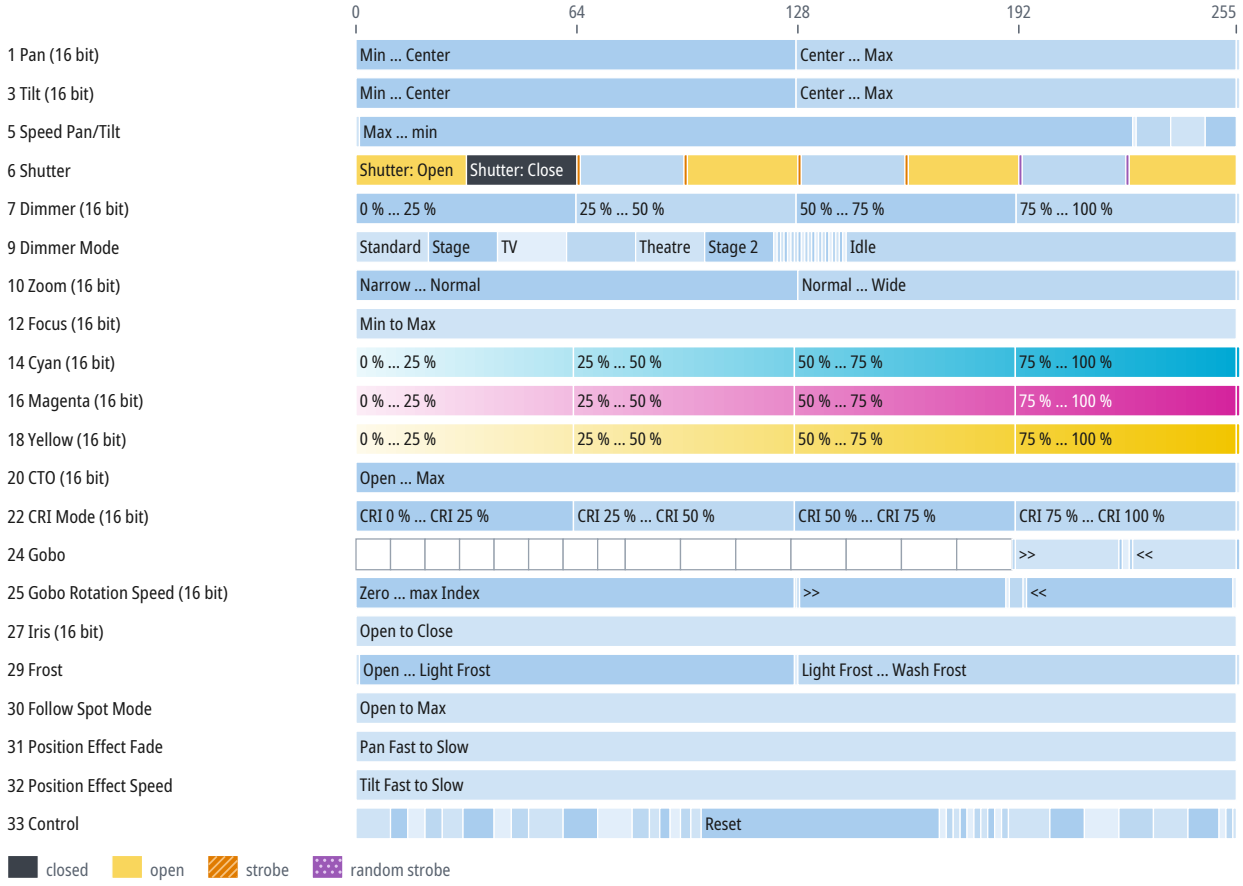
CH	Function	DMX	Description
24	Position Effect Speed		Tilt Acceleration
		0–255	Tilt Fast to Slow
25	Control	0–9	Iris mode: Idle
		10–14	Automatic
		15–19	Intensity Limit 90%
		20–24	Intensity Limit 70%
		25–30	Intensity Limit 60%
		31–39	Iris mode: Idle
		40–44	Fan Mute
		45–49	Fan Studio
		50–59	Fan 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
		100–168	Reset
		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 Off
		252–253	Display On
		254–255	Display option: Idle

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 6 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 6 Shutter 0, CH 7 Dimmer 255, CH 14 Cyan 0, CH 16 Magenta 0, CH 18 Yellow 0.

Channel functions at a glance



CH	Function	DMX	Description
1	Pan		Same as CH 1 in the mode “Standard” (p. 9)
2	Pan Fine	0–255	Fine adjustment of CH 1
3	Tilt		Same as CH 3 in the mode “Standard” (p. 9)
4	Tilt Fine	0–255	Fine adjustment of CH 3
5	Speed Pan/Tilt	0	Max
		1–224	Max ... min
		225	Min
		226–235	BO by Movement
		236–245	BO by all Wheel
		246–255	Position MSpeed 1
6	Shutter		Same as CH 5 in the mode “Standard” (p. 9)
7	Dimmer		Same as CH 6 in the mode “Standard” (p. 10)
8	Dimmer Fine	0–255	Fine adjustment of CH 7

CH	Function	DMX	Description
9	Dimmer Mode		Same as CH 8 in the mode “Standard” (p. 10)
10	Zoom		Same as CH 9 in the mode “Standard” (p. 10)
11	Zoom Fine	0–255	Fine adjustment of CH 10
12	Focus	0–255	Min to Max
13	Focus Fine	0–255	Fine adjustment of CH 12
14	Cyan	0–63	0 % … 25 %
		63–127	25 % … 50 %
		127–191	50 % … 75 %
		191–255	75 % … 100 %
		255	100 %
15	Cyan Fine	0–255	Fine adjustment of CH 14
16	Magenta	0–63	0 % … 25 %
		63–127	25 % … 50 %
		127–191	50 % … 75 %
		191–255	75 % … 100 %
		255	100 %
17	Magenta Fine	0–255	Fine adjustment of CH 16
18	Yellow	0–63	0 % … 25 %
		63–127	25 % … 50 %
		127–191	50 % … 75 %
		191–255	75 % … 100 %
		255	100 %
19	Yellow Fine	0–255	Fine adjustment of CH 18
20	CTO	0–255	Open … Max
		255	Max
21	CTO Fine	0–255	Fine adjustment of CH 20
22	CRI Mode	0–63	CRI 0 % … CRI 25 %
		63–127	CRI 25 % … CRI 50 %
		127–191	CRI 50 % … CRI 75 %
		191–255	CRI 75 % … CRI 100 %
		255	CRI 100 %
23	CRI Mode Fine	0–255	Fine adjustment of CH 22
24	Gobo		Same as CH 18 in the mode “Standard” (p. 12)
25	Gobo Rotation Speed	0–127	Zero … max Index
		127	Max Index
		128	>>>
		129–188	>> (1055–0.84 °/s)
		189	>
		190–193	Rotate: Stop
		194	<
		195–254	<< (0.84–1055 °/s)
		255	<<<

CH	Function	DMX	Description
26	Gobo Rotation Speed Fine	0–255	Fine adjustment of CH 25
27	Iris	0–255	Open to Close
28	Iris Fine	0–255	Fine adjustment of CH 27
29	Frost		Same as CH 21 in the mode “Standard” (p. 12)
30	Follow Spot Mode		Same as CH 22 in the mode “Standard” (p. 12)
31	Position Effect Fade		Same as CH 23 in the mode “Standard” (p. 12)
32	Position Effect Speed		Same as CH 24 in the mode “Standard” (p. 13)
33	Control		Same as CH 25 in the mode “Standard” (p. 13)

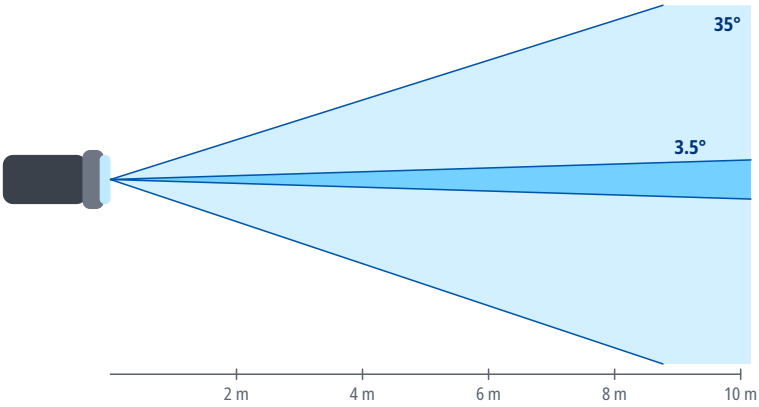
10 Technical specifications

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
Electrical	
Power connectors	powerCON TRUE1
Dimensions and construction	
Weight	54 kg
Operating environment	
Operating temperature	-20 to 45 °C

Speeds and ranges

Parameter	Value
Strobe frequency	0.5–10 Hz
Gobo wheel rotation	up to 281.3 °/s (47 rpm)
Gobo rotation	up to 1055 °/s (176 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.