

HYDREX
APEX 830 BSWF



HYDREX APEX 830 BSWF

    /illusioncad

DESIGNED FOR CANADA 

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Safety Information



Note: After receiving the lamp, please check whether the packaging is complete and unpack to check whether the device has any damage caused by transportation. If there is any damage caused by transportation, please do not use the lamp and contact the local technician or manufacturer as soon as possible.

The following symbols are used to identify important safety information on the product and in user manuals:

Warning Danger or caution!	For indoor and outdoor use!	Warning: Please consult the instruction manual before installation, power-on or maintenance!	WARNING Hazard of electric shock!	Proper grounding
Warning: Do not touch the hot surface!	WARNING: Wear gloves!	WARNING Wear eye protection!	WARNING Prevent fire!	Don't look at bright light sources
		ta.....°C		
It is forbidden to interfere with the running track of the lamp during operation	The shortest distance from the object to be illuminated (meters)	Rated maximum ambient temperature	The lamp is not suitable for direct installation on the surface of common combustible materials.	Replace any cracked screens

Note:

- This fixture is for professional use only and is not suitable for other purposes.
- Before using the product, please read the latest product manual. Any faults and problems caused by misuse or neglect of the manual are not within the scope of the company's responsibility and warranty.
- This product is suitable for indoor use and its protection level is IP66.
- When unpacking or moving, in order to prevent damage to the equipment, you cannot move the equipment alone. When hanging lamps, you must verify that the hanging equipment can withstand more than 10 times the weight of the lamp. After installation, verify that the lamp housing and the installation hook are firm and undamaged. At the same time, use a safety rope as an auxiliary safety for the lamp and fix it to the truss.
- The lamp should be installed in a well-ventilated place, keep a distance of more than 0.5 meters from obstacles, and check whether the fan and vents are unobstructed.
- Please do not install the lamp directly on the surface of flammable objects.
- Please ask a professional electrical connection to confirm that the power supply voltage you use must meet the voltage marked on the lamp before installation, and there must be overload or leakage protection.
- When the lamp is powered on, check whether the fuse meets the technical requirements. Do not replace or short-circuit it privately. Then confirm whether the input voltage meets the technical requirements and is properly grounded before powering on.
- When replacing accessories of the lamp, please disconnect the power supply and do not operate with power on.
- Rated maximum ambient temperature: $t_a=40^{\circ}\text{C}$
- Minimum safe shortest distance from the illuminated object: 5m
- Maximum surface temperature during operation: $t_c=75^{\circ}\text{C}$
- Minimum safe distance from combustibles: 0.7m
- The maximum surface temperature of the lamp is 75°C when it reaches a stable state. Please do not touch the lamp body when the lamp is working.
- The installation position of the lamp should prevent it from being stared at for a long time at a distance of less than 3.5m.
- When using the product, pay attention to serious or fatal injuries caused by fire, electric shock, and shedding.
- Without protection, the eyes cannot look directly at the light source for a long time.
- If the protective screen, lens or UV screen on the lamp is visibly damaged, that is, damaged to the extent of failure, such as cracks or deep marks, it should be replaced.
- The maximum number of interconnected lamps is 2.
- The light source in this lamp should be replaced by the manufacturer or its service agent or a person with similar qualifications.
- Only professionals can install, operate and repair the lamp and strictly follow the procedures stated in the operating instructions.
- The relevant information in the manual is for reference only. All lamps are subject to the actual product. If there is any change, we will not notify you separately.

Packaging and transportation

Equipment packaging

- Disconnect the power supply before packaging the lamp and let the lamp cool for more than 15 minutes.
- Lock the horizontal axis protection lock and the vertical protection lock.
- Put on the plastic bag, hold the handle and hold the arm to turn the lamp upside down, and gently put it horizontally into the aviation box. Put the lamp accessories into the special accessories area of the aviation box, cover the aviation box cover and lock the hook. The aviation box is not allowed to be placed upside down.

Transport protection lock

- For transportation safety, the lamp is equipped with protection locks for horizontal and vertical rotation.

Unpacking

- Open the packaging box and remove the inner packaging bag.
- Grab the handle of the equipment and gently lift the lamp out of the packaging box.
- Open the lamp body protection lock before powering on the equipment.

Note: After receiving the lamp, please check whether the packaging is complete, and unpack and check whether the equipment is damaged due to transportation. If there is damage caused by transportation, please do not use this lamp and contact the local technician or manufacturer as soon as possible.

Random packaging accessories

Accessories	Quantity	unit
Product manual	1	Book
Safety cable	1	Piece
Power cable	1	Piece
DMX cable	1	Piece

Specifications:

Power System:

Voltage: AC100~240V/50~60Hz

Power consumption: 830W - Power factor PF: 0.984, maximum input current: 13 A

Source:

Light Source: 680W LED engine (white light)

Color Temperature: 6700K±400K

CRI ≥70 selectable filter for typical CRI value up to 90±3

LED life time: 20,000 hours (data provided by the light source supplier)

Optics:

Beam angle: 4°-45°

High-precision glass lenses

Effects:

Prism: 1X4 prisms effects , rotating in both directions

Dimmer: 0%-100% linear dimming

Strobe: 1-25times/sec High Speed Electronic Strobe

Frost: 1 combinable light frost filter and 1 combinable heavy frost filter

Work Environment:

Maximum ambient temperature: 45°C

Minimum operating temperature: -25°C

Maximum surface temperature: 70°C

Control:

4 touch button control

LCD display – 1.8 inch

Control Protocols: DMX512,RDM

DMX Channels: : /32CH37CH

DMX Connector: XLR-3 or XLR-5 optional

Movement:

Pan: 540°(16-bit control),continuous rotation

Tilt: 270°(16-bit control),continuous rotation

Automatic Pan/Tilt position correction

Color system:

CMY+CTO

CTB, with linear and adjustable CRI • 1 Color wheel: 7 colors + open, indexable

Gobo system(Rotating Gobo)

1 rotating gobo wheel: 7 gobos + open, with self-rotation, shaking, and water wave effects

Animation wheel

1 Animation wheel:with continuous rotation in both directions, interchangeable water wave and fire effect

Framing:

Framing module(4 shutter blades) with individual control, and the complete framing system with+/- 120° rotation

Dimensions and weight

Fixture size:409mm*280mm*716.5mm

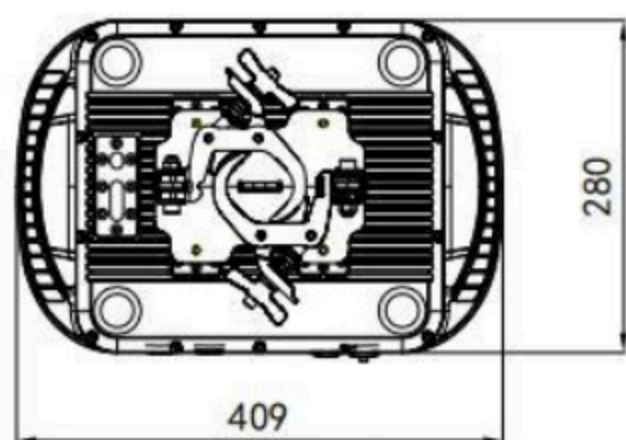
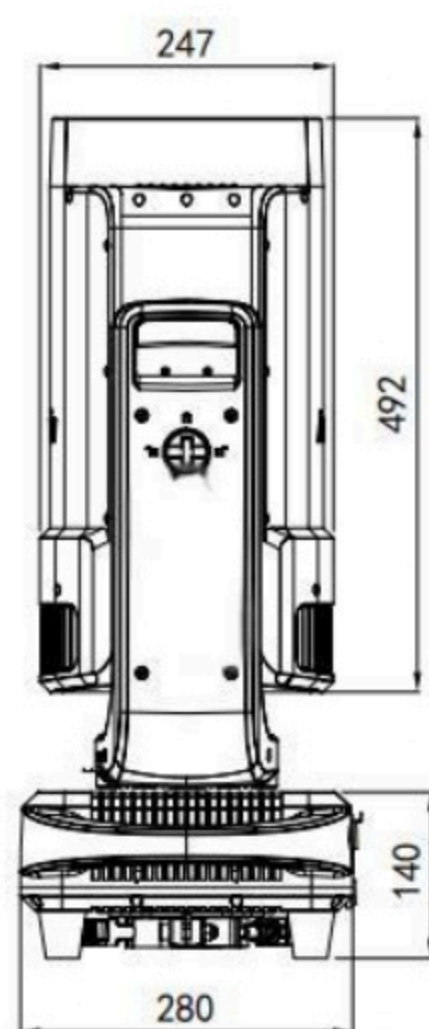
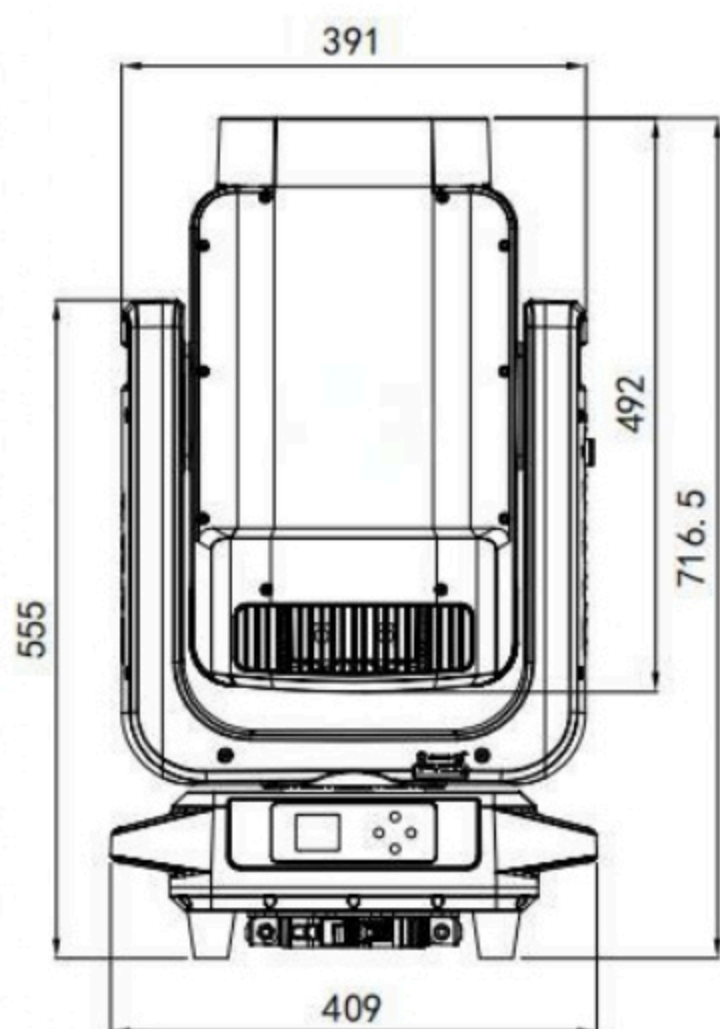
Weight: 29KG

Carton size: 490mm*360mm*790mm

Gross weight with carton: 35 KG

Flycase size: 575mm*555mm*825mm (1pc/case) ; 950mm*570mm*820mm (2in1 case)

Gross weight with flycase: 60KG (1pc/case) ; 102KG (2in1 case)



Color system

CMY linear adjustment, CTO color temperature linear adjustment

1 color wheel, 7 fixed colors +open, with bidirectional rotating rainbow effect; (Figure 1)

NO.	Color
1.	Red
2.	Green
3.	Rose Red
4.	Orange
5.	Blue
6.	CTB
7.	CRI

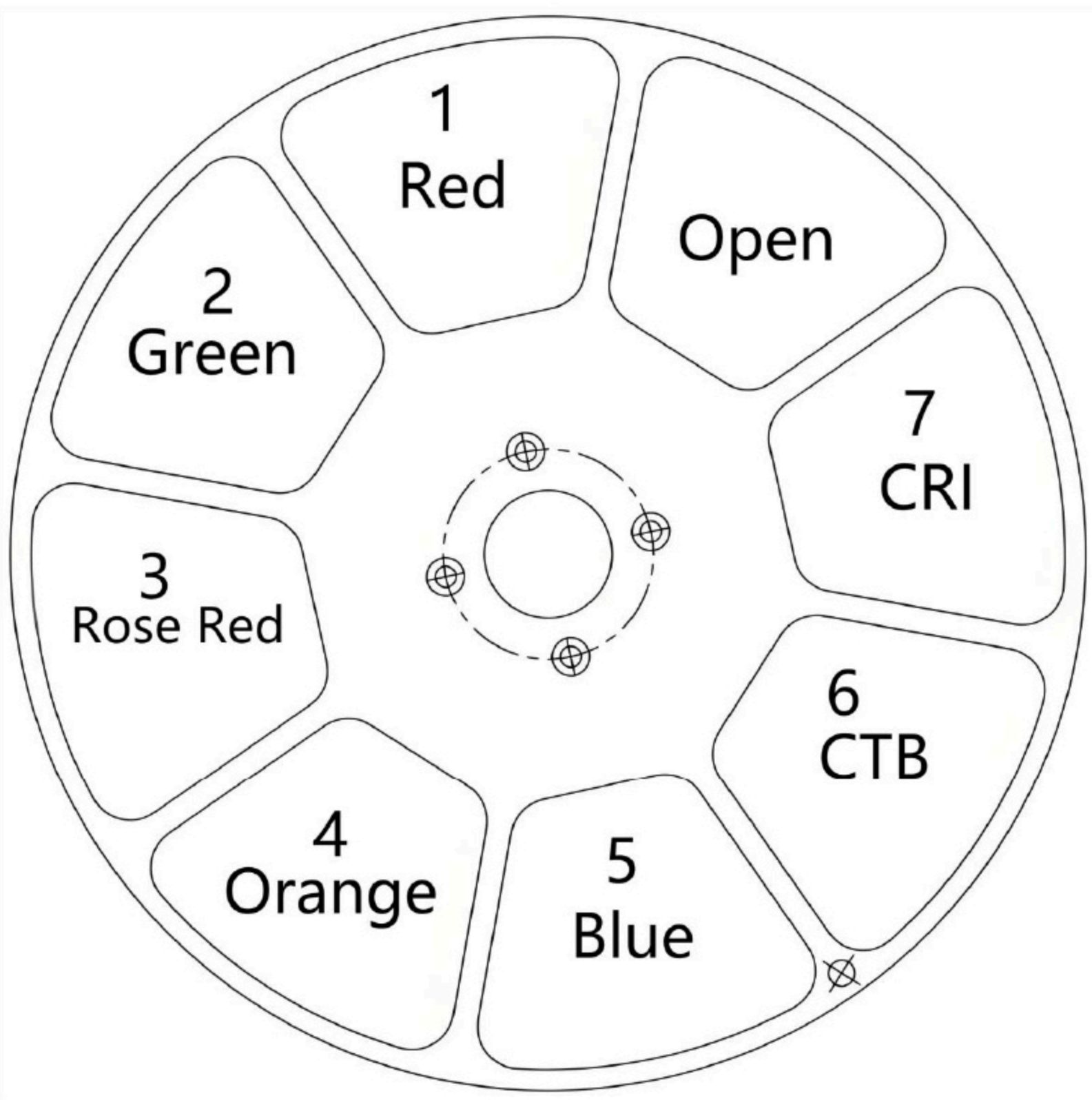
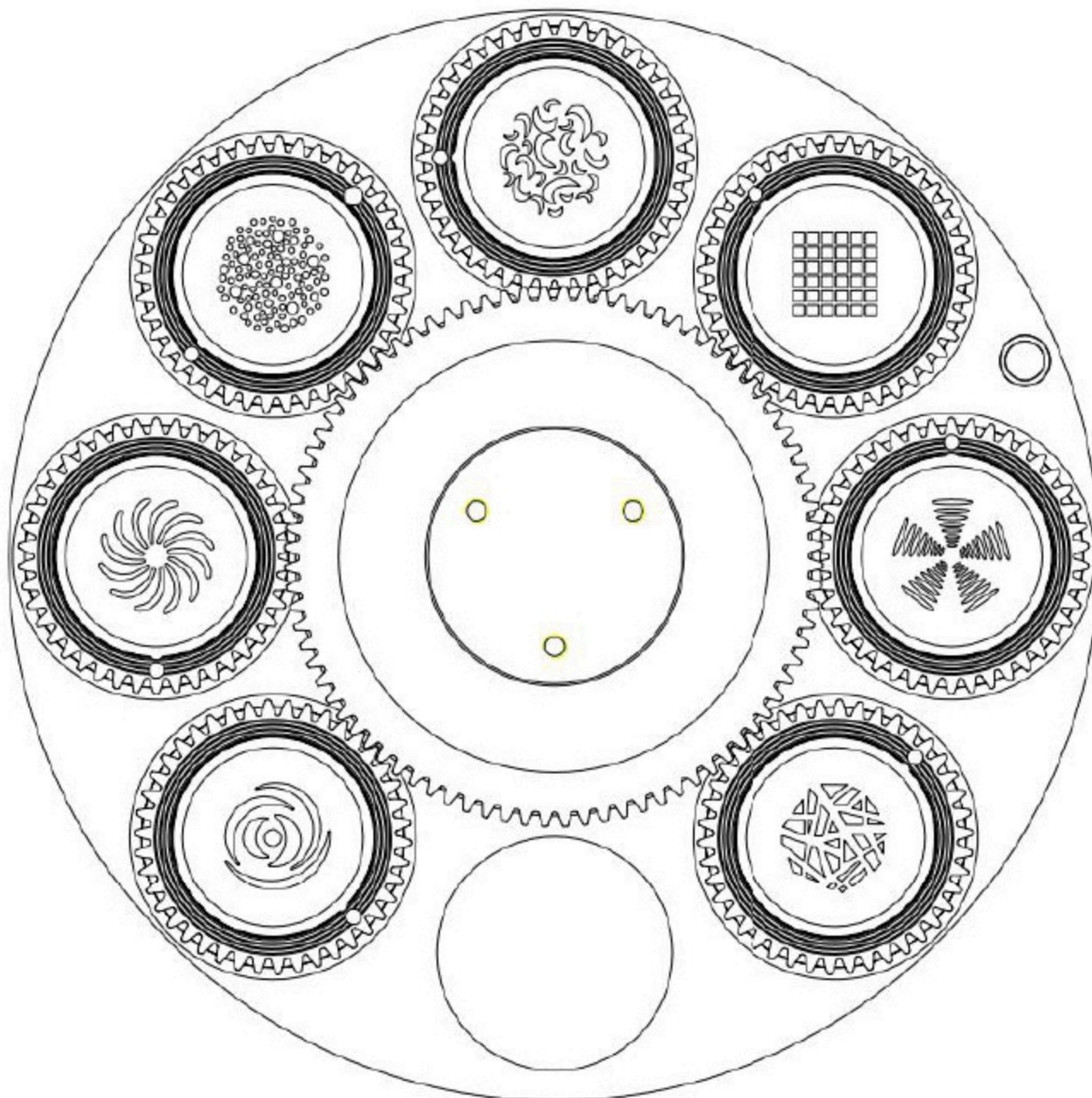


Figure 1

Gobo system(Rotating Gobo)

- 1 rotating gobo wheel: 7 gobos + open, with self-rotation, shaking, and water wave effects. (Figure 2)



(Figure 2)

Gobo system(Animation wheel)

- 1 Animation wheel:with continuous rotation in both directions, interchangeable water wave and fire effect. (Figure 3)

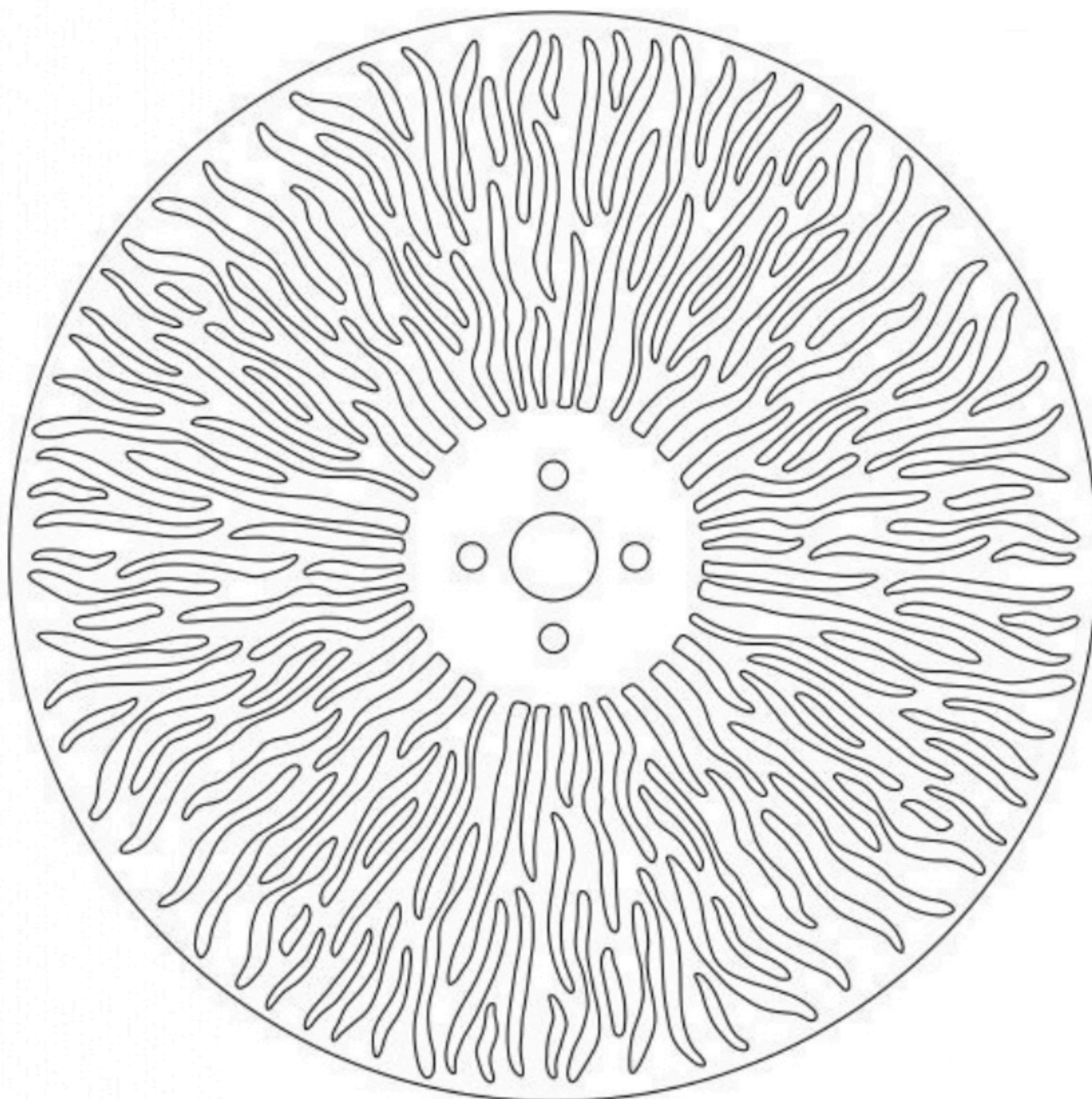
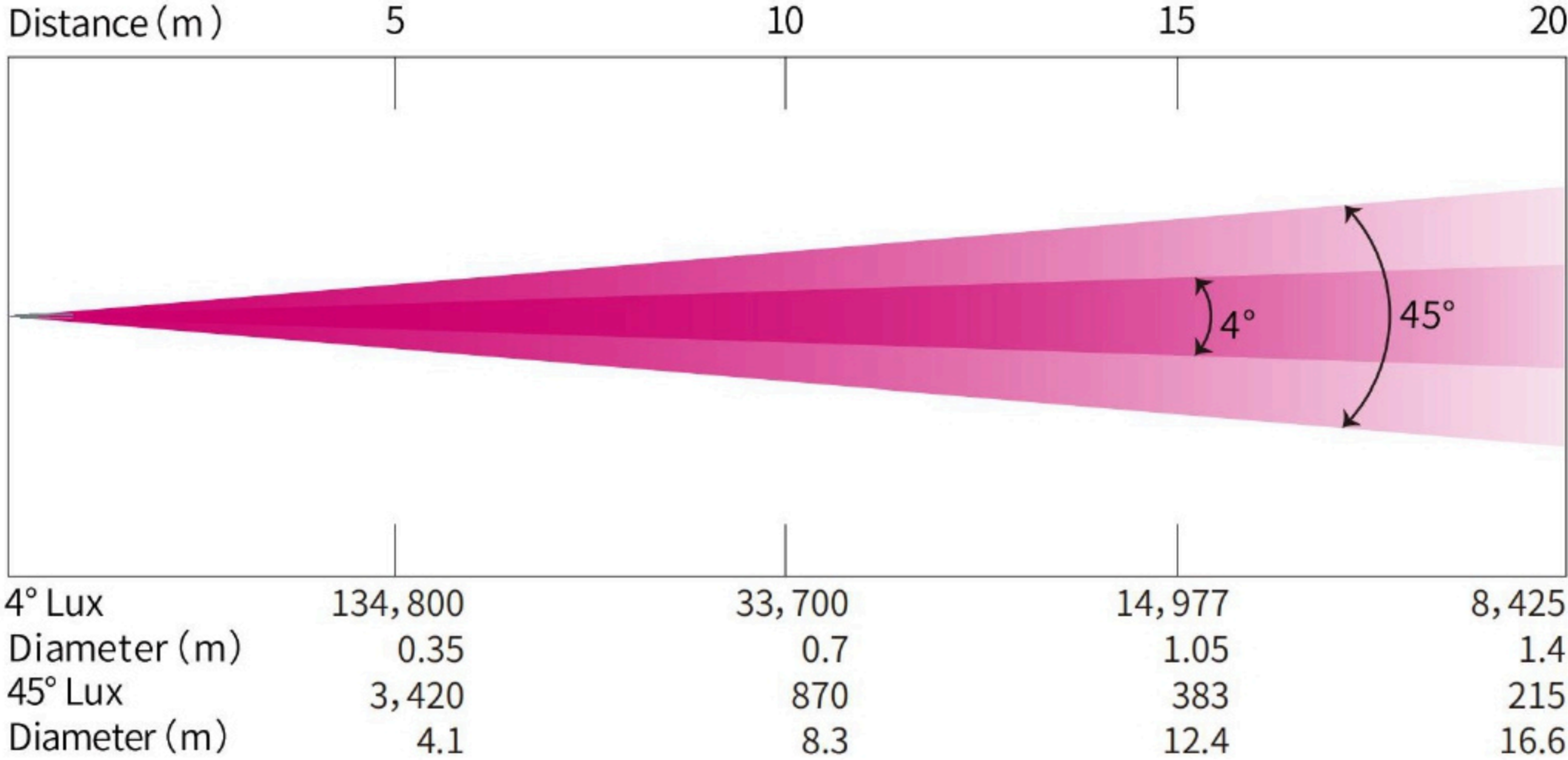
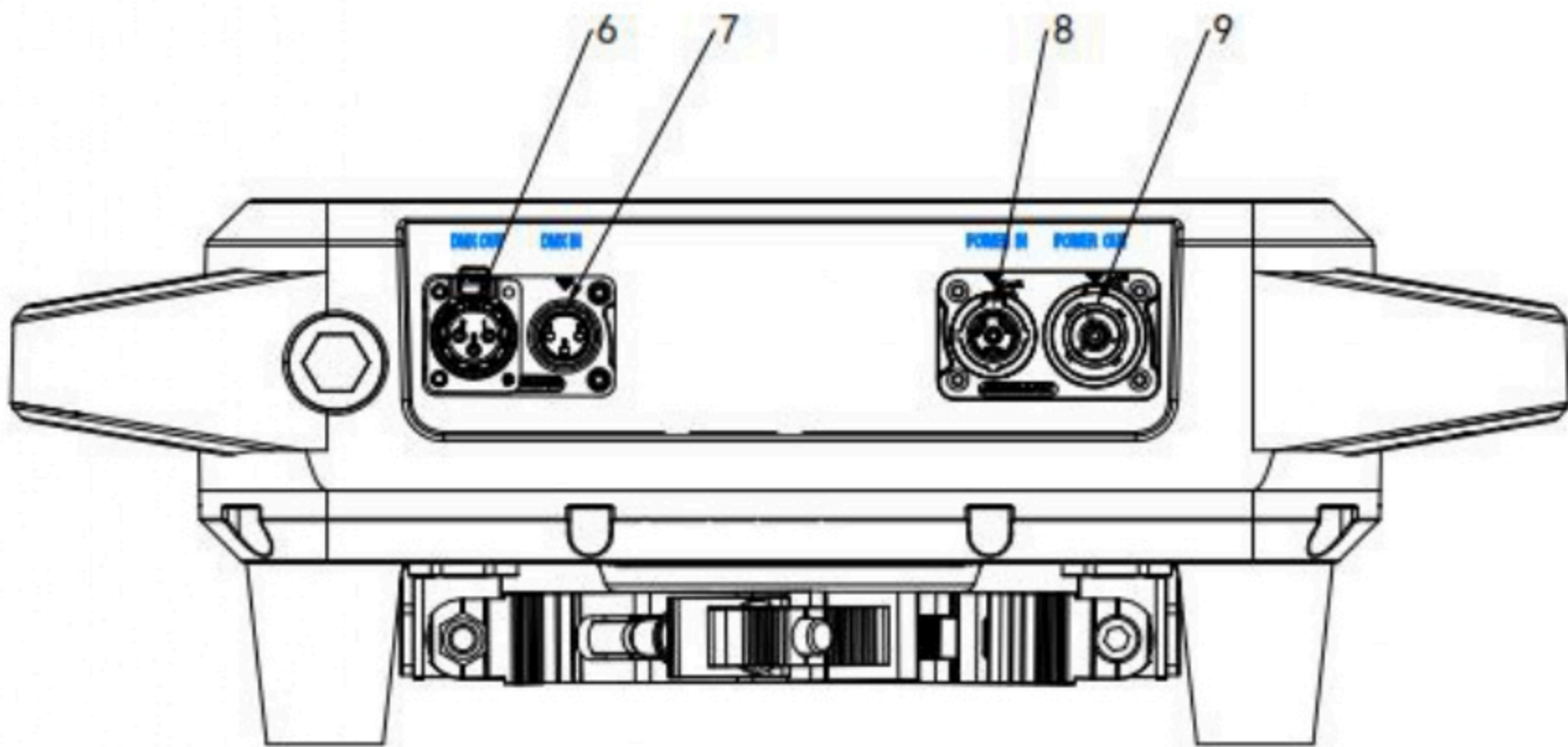
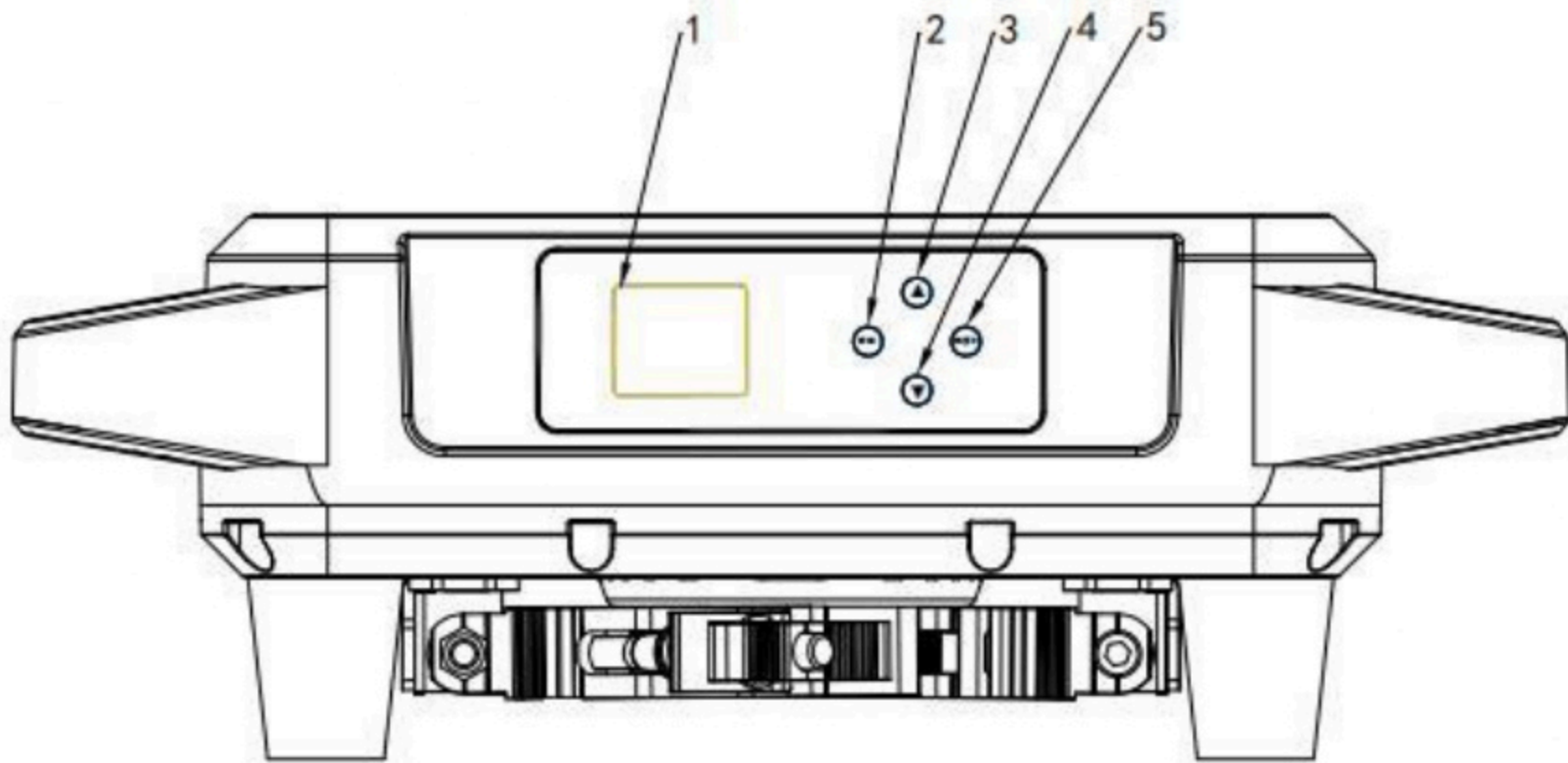


Figure 3

Lumen Data



Display



1. LCD screen	2. Menu	3. Up	4. Down	5. ENTER
6. DMX Out	7. DMX In	8. Power In	9. Power Out	

Up : submenus control, up to adjust data values
 Down : submenus control, down to adjust data value.
 Menu (return key): Return to menu.
 Enter: Confirm data value or select cycle data .

Display Operation

Main Level	Programming Levels	Value	Default setting	Description
DMX Address		001-512	001	DMX address from 001 to 512
Settings	DMX mode	32/37	37	Select the DMX mode
	Control mode	DMXX/Master mode	DMXX	Select the running mode
	Pan Reverse	Off/On	Off	Pan direction
	Tilt Reverse	Off/On	Off	Tilt direction
	Out-of-step detection	Off/On	On	Set whether the XY motor returns to the original position after losing step
	Signal processing	Reset/Hold	Hold	Set the state when there is no DMX signal
	Fan control	Auto	Auto	
		Silent		
		UltraS		
	Automatic locking	Off/On	On	Set the key operation
	Dimmer Curve	Linear	Linear	Select 4 kinds of dimmer curves
		Square Law		
		Inv SQ Law		
		S Curve		
	Refresh	400Hz		Select dimmer frequency
		1200Hz		
		2kHz		
4kHz				
6kHz				
8kHz				
16kHz		16kHz		
24kHz				
Manual Control	Pan	000-255	000	
	Fine pan	000-255	000	
	Tilt	000-255	000	
	Fine tilt	000-255	000	
	Pan/tilt speed	000-255	000	
	Pan rotating	000-255	000	
	Tilt rotating	000-255	000	
	Strobe	000-255	000	
	Dimming	000-255	000	
	Fine Dimming	000-255	000	
	Color wheel	000-255	000	
	Animation wheel	000-255	000	
	Rotating gobo	000-255	000	
	Rotate the rotating gobo	000-255	000	
	Cyan	000-255	000	
	Magenta	000-255	000	
	Yellow	000-255	000	
	CTO	000-255	000	
	Prism 1	000-255	000	
	Prism 1 rotating	000-255	000	
	Light frost	000-255	000	
	Heavy frost	000-255	000	
	Blade 1-1	000-255	000	Blade 1-1 open to closed
Blade 1-2	000-255	000	Blade 1-2 open to closed	
Blade 2-1	000-255	000	Blade 2-1 open to closed	

	Blade 2-2	000-255	000	Blade 2-2 open to closed
	Blade 3-1	000-255	000	Blade 3-1 open to closed
	Blade 3-2	000-255	000	Blade 3-2 open to closed
	Blade 4-1	000-255	000	Blade 4-1 open to closed
	Blade 4-2	000-255	000	Blade 4-2 open to closed
	Blade rotating	000-255	000	Blade rotating 0-90 degree
	Iris	000-255	000	
	Zoom	000-255	000	
	Fine zoom	000-255	000	
	Focus	000-255	000	
	Fine focus	000-255	000	
	Function	000-255	000	

Information	Time information	Startup time xxxH		Fixture startup time
		Total time xxxH		Total running time of the fixture
		Times of startup xxx		Times of fixture startups
	Sensor detection	Pan Animation wheel CTO		Motor reset detection, error display corresponding motor
		Tilt Color		
		Cyan Rotating		
		Magenta Zoom		
		Yellow Focus		
	Temperature control information	Rotating-Gobo Framing		Show the temperature
		Light source temperature xxx		
		Head temperature xxx		
		Board temperature xxx		
	Software Version	Base temperature xxx		Version of each functional module
Software Version V1.01				
X motor version V1.01				
Y motor version V1.01				
Gobo version V1.01				
CMY version V1.01				
Framing version V1.01				
Zoom version V1.01				
Factory settings	Dimming version V1.01		Setting the original position of the motor (you can only set it normally after entering the password 078, and it cannot be restored to the factory settings)	
	Password input	000-255 (078)		
	Pan correction	000-255 (127)		
	Tilt correction	000-255 (127)		
	Color correction	000-255 (127)		
Static gobo	000-255 (127)			

Gobo correction	000-255 (127)		
Gobo Rotating	000-255 (127)		
Cyan correction	000-255 (127)		
Magenta correction	000-255 (127)		
Yellow correction	000-255 (127)		
CTO correction	000-255 (127)		
Prism 1	000-255 (127)		
Prism 1 rotating	000-255 (127)		
Light frost	000-255 (127)		
Heavy frost	000-255 (127)		
Blade1-1	000-255 (127)		
Blade1-2	000-255 (127)		
Blade2-1	000-255 (127)		
Blade2-2	000-255 (127)		
Blade3-1	000-255 (127)		
Blade3-2	000-255 (127)		
Blade4-1	000-255 (127)		
Blade4-2	000-255 (127)		
Blade rotation	000-255 (127)		
Iris	000-255 (127)		
Zoom	000-255 (127)		
Focus	000-255 (127)		
Brightness Correction	000-255 (255)		

Reset settings	Head reset	Cancel/Execute		Moving head motor reset
	Pan/Tilt	Cancel/Execute		Pan/Tilt reset
	All reset	Cancel/Execute		All motors reset
	Factory settings	Cancel/Execute		Factory settings (yellow marks are restored factory settings)
Display Settings	Language settings	ENG		Display language, cannot be restored to factory settings
	Display Reverse	Normal/Reverse	Normal	Set the display
	Display mode	60 seconds/constant light	60 seconds	Set the display mode, automatically black screen after 60 seconds, always on without black screen

The color marked on the top is the default state, and the green mark cannot be restored to factory settings

DMX connection

The device uses a three-core XL R plug to control DMX input and output. Pin 1 is grounded, pin 2 is connected to the negative polarity signal, and pin 3 is connected to the positive signal. Please use a professional DMX5 12 shielded twisted pair signal cable. The signal cable is generally connected at a distance of 150 meters. For long-distance signal transmission, a DMX5 12 signal amplifier needs to be added. Connect the DMX output port of the controller to the DMX input port of the first device, and connect the DMX output port of the first device to the DMX input port of the second device, and so on. All devices are directly connected. The connection method is as follows (Figure 5):

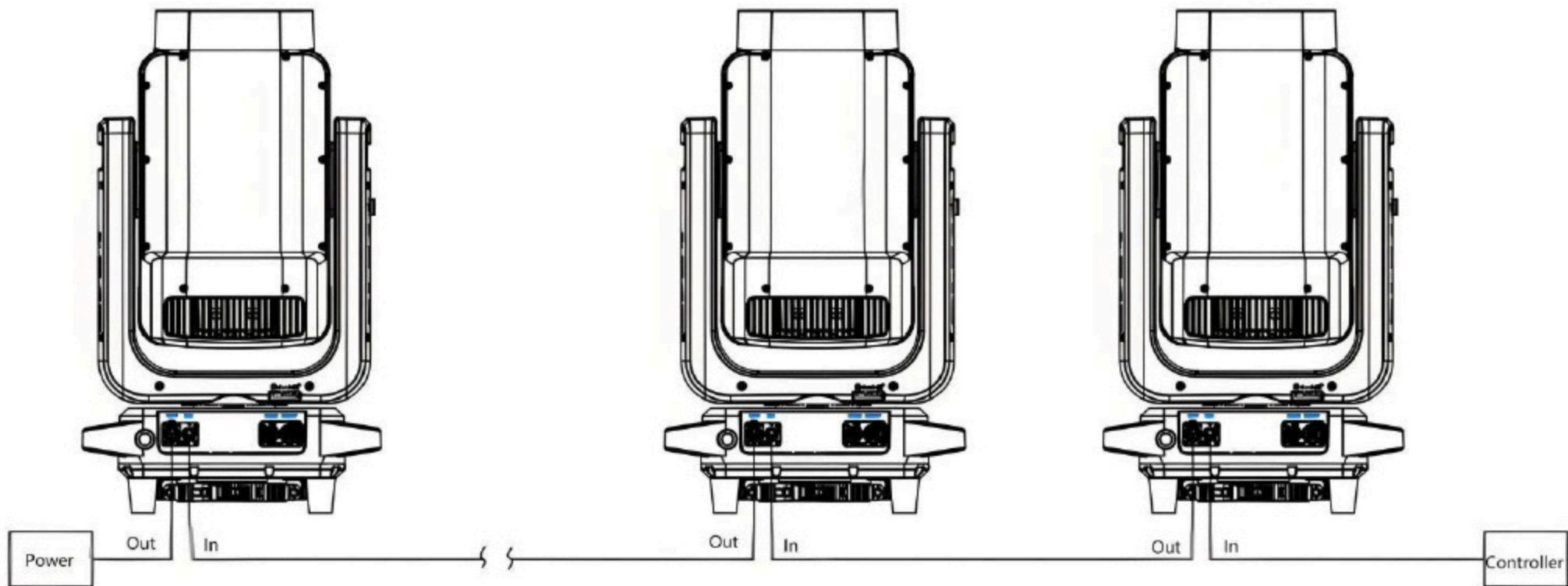


Figure 5

Note:

- Do not use multiple outputs to separate the connection. If you want to separate the continuous connection branches, you must use a DMX5 12 signal amplifier to separate them.
- Standard amplifier cables cannot reliably control long-distance data. Professional DMX5 12 shielded twisted pair signals must be used.
- The signal of a device cannot be connected to two inputs and two outputs, only one input and one output.

Power connection

The power input voltage and frequency must match the voltage and frequency marked on the lamp. When multiple lamps are used at the same time, it is recommended that each lamp be individually powered on/off.

Connection method

- L (live wire) brown wire
- N (neutral wire) blue wire
- E (ground wire) yellow-green two-color wire

Note: ●When connecting the power supply, the ground wire (yellow-green two-color wire) must be safely grounded and comply with relevant electrical installation standards.

●Insulation category maintained between the L power supply and the control conductor: Class I.

●If the external cable of this lamp is damaged, please do not replace it privately, please notify the manufacturer or service agent for processing.

●Before powering on, a professional is required to check and confirm that the power supply voltage used must meet the equipment identification voltage and have overload or leakage protection.

Installation instructions and requirements

Users should ensure that the lamps and their installation materials are regularly inspected for safety. If you lack the conditions and professional level to perform these tasks, please ask relevant professionals to operate them. Do not operate them yourself. Unprofessional and incorrect installation may cause property loss or life danger.

Before installation, it must be verified that the rigging and equipment fixtures are not damaged and can withstand at least 10 times the weight of the equipment, and that the building can withstand at least 10 times the total weight of the equipment, fixtures, and cable accessories.

Clamp installation

The fixture comes with an integrated clamp (Figure 6).

Equipment installation

The fixture is installed on the stage or truss, and the clamp can be quickly locked on the truss. (Figure 7)

Note: ● Before installation, it must be verified that the clamp and safety rope are not damaged.

● A safety rope must be added to connect the base hook to the safety rope hole. Be careful not to connect it to the handle for transportation.

● Open the horizontal and vertical locks before powering on.

● Long-term side hanging is not recommended.

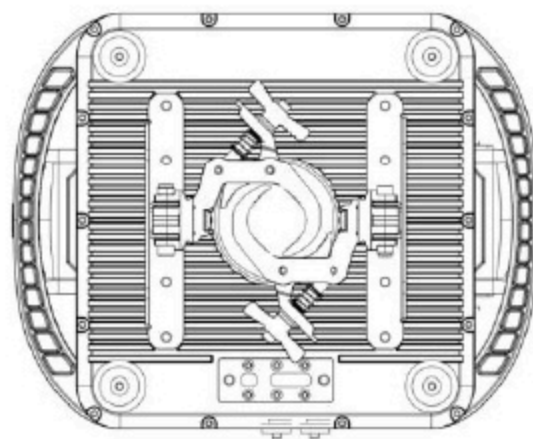
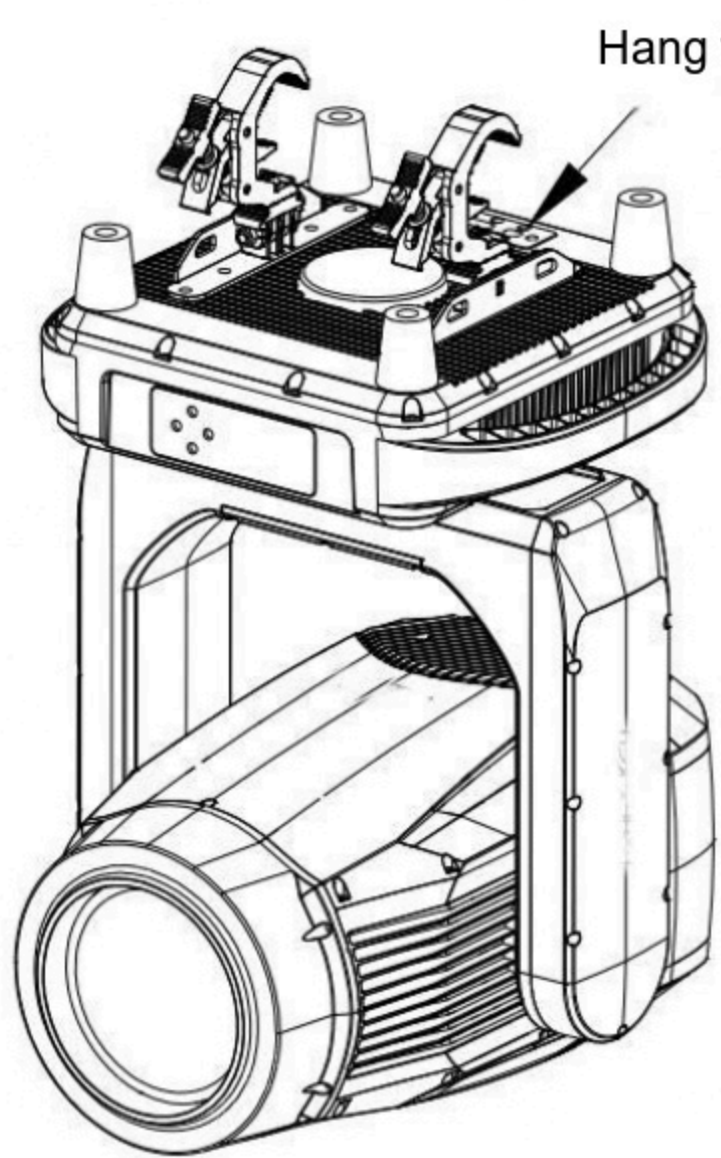


Figure 6



Hang the safety rope here

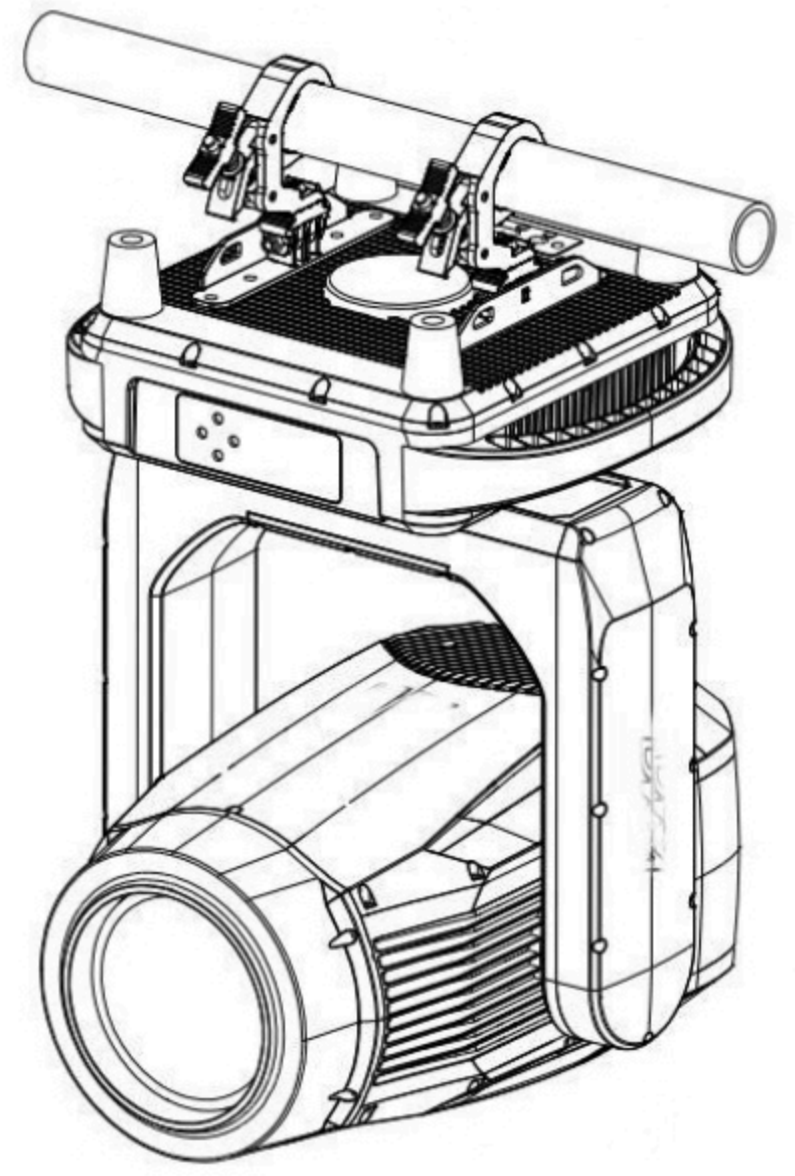


Figure7

Lighting fixture placement

When placing lighting fixtures, first check that there are no flammable substances or other flammable materials near the equipment, and then place the lighting fixture vertically upward. The shortest safe distance between adjacent lighting fixtures must be ≥ 0.9 meters when working. The lighting fixture installation layout is as follows (Figure 8):

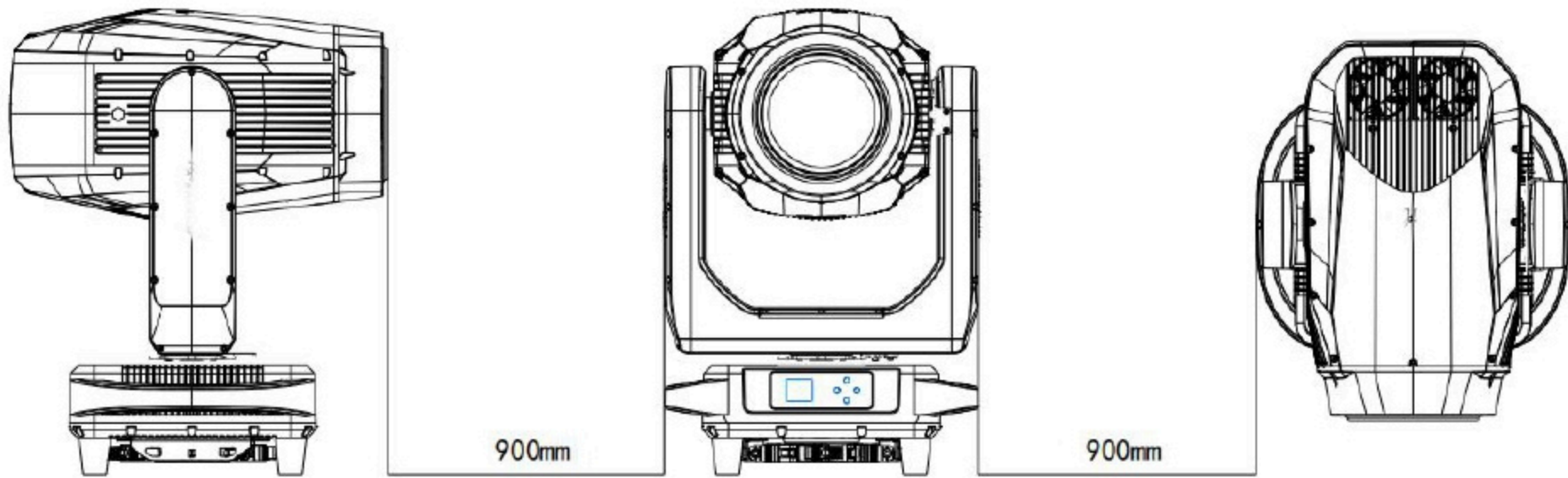


Figure 8

DMX Control Channel

32CH	37CH	Function	Value	Percent/Setting
1	1	Pan	0--255	Pan control 0-540 degree
*	2	Fine Pan	0--255	Fine control (16-bit)
2	3	Tilt	0--255	Tilt control 0-270 degree
*	4	Fine tilt	0--255	Fine control (16-bit)
3	5	Pan/tilt speed	0--255	Fast to slow
4	6	Pan continuous rotation control	0-9	No function
			10-127	Pan rotating, fast to slow
			128-130	Stop
			131-255	Reverse rotating, from slow to fast
5	7	Tilt continuous rotation control	0-9	No function
			10-127	Tilt rotating, fast to slow
			128-130	Stop
			131-255	Reverse rotating, from slow to fast
6	8	Strobe	0--31	LED off
			32--63	LED on
			64--95	Synchronized strobe, slow to fast (1-20Hz)
			96--127	LED on
			128--159	Pulse strobe, slow to fast
			160--191	LED on
			192--223	Random strobe, slow to fast
			224-255	LED on
7	9	Dimming	0--255	Dimming from 0-100%
*	10	Fine Dimming	0--255	Fine dimmer (16-bit)
8	11	Color wheel	0-7	Open
			8-17	Color 1(Red)
			18-27	Color 2(Green)
			28-37	Color 3(Rose Red)
			38-47	Color 4(Orange)
			48-57	Color 5(Blue)
			58-67	Color 6(CTB)
			68-77	Color 7(CRI)
			78-151	Color wheel indexing
			152-202	Color scroll, fast to slow
			203-204	Stop
			205-255	Reverse color scroll, slow to fast
9	12	Animation wheel	0-31	Animation wheel out
			32-63	Animation wheel Insert
			64-255	Animation rotating, slow to fast
10	13	Rotating gobo	0-7	Open
			8-17	

				Rotating gobo 1
			18-27	Rotating gobo 2
			28-37	Rotating gobo 3
			38-47	Rotating gobo 4
			48-57	Rotating gobo 5
			58-67	Rotating gobo 6
			68-77	Rotating gobo 7
			78-87	Rotating gobo 1 shaking
			88-97	Rotating gobo 2 shaking
			98-107	Rotating gobo 3 shaking
			108-117	Rotating gobo 4 shaking
			118-127	Rotating gobo 5 shaking
			128-137	Rotating gobo 6 shaking
			138-147	Rotating gobo 7 shaking
			148-200	Gobo scroll, fast to slow
			201-202	Stop
			203-255	Reverse gobo scroll, slow to fast
11	14	Rotate the rotating gobo	0-127	Gobo control 0-360 degree
			128-190	Gobo scroll, fast to slow
			191-192	Stop
			193-255	Reverse gobo scroll, slow to fast
12	15	Cyan	0--255	light to dark
13	16	Magenta	0--255	light to dark
14	17	Yellow	0--255	light to dark
15	18	CTO	0--255	light to dark
16	19	Prism 1	0-31	No function
			32-255	Prism 1 insert
17	20	Prism 1 rotating	0-127	Prism control 0-360 degree
			128-190	Prism rotating, fast to slow
			191-192	Stop
			193-255	Reverse prism rotating, slow to fast
18	21	Light frost	0-31	No function

			32-255	Frost insert
19	22	Heavy frost	0-31	No function
			32-255	Frost insert
20	23	Blade 1-1	0--255	Blade 1-1 open to closed
21	24	Blade 1-2	0--255	Blade 1-2 open to closed
22	25	Blade 2-1	0--255	Blade 2-1 open to closed
23	26	Blade 2-2	0--255	Blade 2-2 open to closed
24	27	Blade 3-1	0--255	Blade 3-1 open to closed
25	28	Blade 3-2	0--255	Blade 3-2 open to closed
26	29	Blade 4-1	0--255	Blade 4-1 open to closed
27	30	Blade 4-2	0--255	Blade 4-2 open to closed
28	31	Blade rotating	0--255	Blade rotating 0-90 degree
29	32	Iris	0--255	Big to small
30	33	Zoom	0--255	Big to small
*	34	Fine zoom	0--255	Fine control (16-bit)
31	35	Focus	0--255	Focus control
*	36	Fine focus	0--255	Fine control (16-bit)
32	37	Function control	0-10	No function
			11--15	Moving head reset
			16--20	Pan/tilt reset
			21--25	Reset All
			26--30	Horizontal Inversion Off
			31--35	Horizontal Inversion On
			36--40	Vertical Inversion Off
			41--45	Vertical Inversion On
			46--50	Fan control- Auto
			51--55	Fan control- Silent
			56--60	Fan control-Ultra S
			61--65	Reserved function
			66--70	Reserved function
			71--75	Dimmer curve--Linear
			76--80	Dimmer curve--Square Law
			81--85	Dimmer curve--Inv SQ Law
			86--90	Dimmer curve--S
			91	Dimmer frequency--400Hz
			92	Dimmer frequency--1200Hz
			93	Dimmer frequency--2KHz
94	Dimmer frequency--4KHz			
95	Dimmer frequency--6KHz			
96	Dimmer frequency--8KHz			
97	Dimmer frequency--16KHz			
98	Dimmer frequency--24KHz			
			99-255	Reserved function

Inspection and Cleaning

The lamps require daily cleaning and maintenance. The length of service life depends largely on the operating environment and daily cleaning and maintenance. If you have any questions, please consult our engineers for advice and report the maintenance work not included in this manual to our qualified engineers.

The precautions are as follows:



- Disconnect the power supply before opening any cover;
- After disconnecting the power supply, wait until the lamp is fully cooled before opening the housing;
- Clean the optical parts gently, the coating surface is easy to scratch, do not use damaging liquids or hard objects, which will damage the plastic and coating surface;
- Use unscented cotton paper or cotton cloth soaked in clean water or distilled water to wipe away granular matter, do not wipe the surface, use pressurized gas to blow away floating objects, but the residue must be removed with distilled water, wipe in circles from the center to both sides, and then wipe dry with a soft cotton cloth.
- When the lens is cracked or otherwise damaged, it should be replaced in time.
- Damage caused by excessive dust, smoke flow and abnormal use of the fan is not covered by the warranty.
- The lamp is equipped with a temperature protection device. When the temperature is too high, the protection device will automatically turn off the light. When this happens, please check whether the fan is running normally and whether the fan filter is clogged with dust. A qualified technician must find the fault and repair it before starting the lamp.
- It is recommended to clean and maintain the fan filter and lens once a week, and perform comprehensive maintenance on the lamp once every six months.

Troubleshooting

The following are some common problems that occur during operation, and some suggestions for troubleshooting are attached:

- The lamp does not respond when powered on
- Check whether the power input is normal.
- Is the power switch in the on state.
- Check whether the switch power supply is burned out.
- Not controlled by the console
- Is the display screen flickering? If so, check the DMX signal connector and signal cable to see if they are connected correctly.
- If the display screen does not flicker but does not respond to channel control, check whether the address code is set correctly.
- If the DMX signal transmission is intermittent, check whether the XLR socket and the signal line are well connected.
- Replace the control device for testing.
- A channel is out of order
- The stepper motor or motor lead may be damaged.
- The motor drive circuit may be damaged.
- The light source is on and off
- The light source cannot be lit normally, check whether the voltage is too high or too low.
- The internal temperature may be too high, if necessary, replace the cooling fan.



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