DLW

Product Manual

DLW L500 BSW

Guangzhou DLW Lighting Equipment Co., Ltd.

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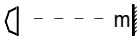
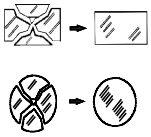
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Safety Information

Note: Please check the complete packing after received the fixture, and please check the fixture damaged or not during shipping after opened the packing. If the fixture is damaged during shipping, please don't use it first, and contact the manufacture/local technical staffs as soon as possible.

The following identifications are used to identify the product and identify the important safety information in the user manual.

							
Warning!	Used indoor only!	Warning! See user documentation.	Warning! Hazardous voltage.Risk of lethal or severe electric shock.	Properly grounded	Warning! Intense light emission.	Warning! High surface temperature Don't touch!	Warning! Must wear gloves!
							
Warning! Fire hazard.	Do not stare at the operating light source	Do not interfere with the track of the operating fixture	Minimum distance of illuminated objects(m)	Rated maximum ambient temperature!	Don't install the fixture on the surfact of combustible materials!	Replace any cracked protective shields	

Notes:

- The fixture is used professionally only, please don't used it for any other purposes.
- Please refer to the latest user manual before using the fixture. It is out of warranty items if any problems caused by any incorrect use or neglecting the user manual.
- The fixture is used indoor; IP rate is IP20. Keep the fixture dry and avoid to use the fixture under the environment of damp, overheating or dustiness. Keep away from the water or any liquid.
- Don't move the fixture alone in order to avoid damaging it, must test hanging devices should bear more than 6 times weight of the fixture when hanging it. Please check the fixture shell and fixed G-clamp after installed. At the same time, please use the safety chain to keep the fixture fixed on the truss safely.
- The fixture should be installed in a well-ventilated place. Keep the distance from obstacles above 0.5m, and check the fans and ventilation holes are blocked or not.

- Please don't install the fixture on the surfaces of the inflammable goods directly.
- Please check the voltage before the professional technicians install the fixture.
  The voltage must be the same with the voltage which marked on the fixture.
  Overloading protection or leakage protection are also required.
- When replacing the fuse of a fixture, please check whether the fuse meets the specified technical requirements. Do not replace or short-circuit it without allowed. Please confirm whether the input voltage meets the specified technical requirements and is correctly grounded before powering on.
- Please cut off the power supply when replacing the fuse.()
- Rated maximum ambient temperature when the fixture is working: ta = 40℃.
- The safe/shortest distance to the illuminate object:5m.
- when the fixture working stably, the maximum surface temperature: tc =75°C.
- The shortest safety distance to combustible material:0.7m.
- Please don't touch the fixture when it is working stably.It's highest surface temperature can reach 75°C.
- The fixture must be positioned in such a way that it is not subjected to prolonged observation from a distance of less than 3.5 meters.
- Please don't stare at the working fixture directly without any eye protection.
- Please replace the protective cover and lens if any visible damage happened or the damage has reached the malfunction level.()
- The fixture must be installed, operated, and maintained by professionals strictly according to the user manual.
- All the information of the user manual is for your reference only. All fixtures should be subject to the actual product, which is subject to change without prior notice.

Package & Transportation

Fixture package

- Please cut off the power supply and cooling it for over 15mins before package the fixture.
- Lock the protection lock well with Tilt=90°.
- Put the fixture into plastic bag, then grasp the handles and arms to keep it handstand, and then put it into the flight case vertically and carefully, the parts are place at special area in flight case, then close the flight case and lock it. don't put it upside down.

Transport protection lock

- Protective locks for tilt movement are installed in the fixture for safe transportation.

Unpacking

- Open the packing box, and then open the inner packing bag.
- Grasp the handle of the fixture, take it out of the case carefully.
- Unlock the protective lock before power on the fixture.

Notice: Please check the complete packing after received the fixture, and please check the fixture damaged or not during shipping after opened the packing. If the fixture is damaged during shipping, please don't use it first, and contact the manufacture/local technical staffs as soon as possible.

Accessories with fixture

Accessories	Qty
User Manual	1
Warranty Card	1
Signal Cable	1
Power Cable	1

Product Technical Specifications

Electrical parameters

- AC100 ~ 240V 50/60 Hz
- Rated current:5.7A, rated power input: 570W, PF≥0.98.

Light Source parameters

- Light source:450W LED white source module(high brightness).
- Lifespan:20000Hrs.

Optics parameters

- Zoom rang: Beam/spot: 4°-35°,Wash: 8°-45°.

Effect Configuration

- 2prism effect (4-facet prism), bidirectional rotation.
- 1 frost.
- Electronic dimmer , 0-100% dimmer,multiple multiple options of dimming curve.
- Fast strobe device,speed is 0.5-25 flash/s .Multiple strobe effects selected.

Fixture Movement

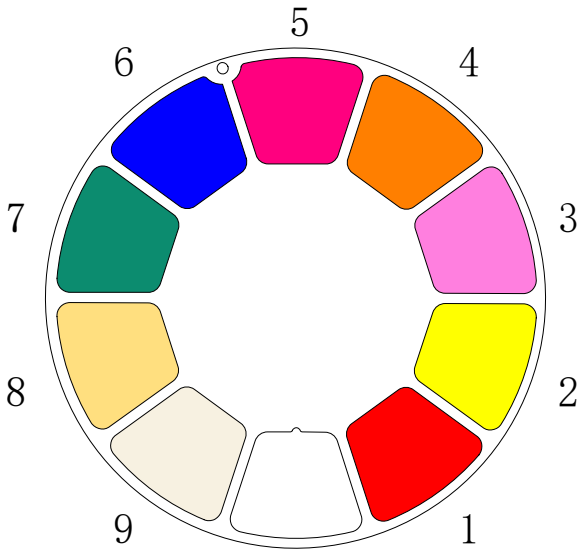
- PAN=540°, precision: 8bit, 2.11°/step, 16bit, 0.008°.
- TILT=270°, precision: 8bit, 1.06°/step, 16bit, 0.004°.

Electronic Control

- Channel:23CH/26CH/37CH.
- Control Protocols:DMX512,RDM,Art-Net,sACN,wireless function(optional).
- Control Portals: XLR-3+ XLR-5; RJ45 (optional).
- Menu display: 2.4'' LCD screen; choice of Chinese and English language, menu available to be displayed 180° reversely.
- Built-in self-rechargeable battery, menu can be edited without power supply (optional version); Support connecting with power bank to enter the menu and edit address code and other settings.
- Electronic sensors testing, fan intelligent detect and controllable.
- Eco mode(sleep mode when standby)
- Non-touching magenetic encoder positionable system for pan/tilt.

Color System

- CMY infinite color mixing system, Good saturation RGB, pure color, High Brightness CTO linear adjustment.
- 1 fixed color wheel with 9 color filters+ white, Bi-direction rainbow, stepping,
- gradual changing color, random color mode.(Pic1)

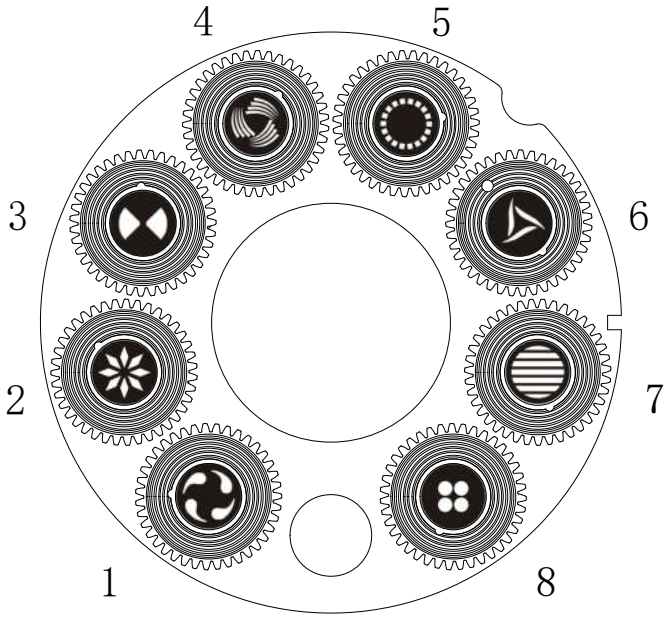


1.Red
2. Yellow
3. Pink
4. Orange
5. plum red
6. Blue
7. Dark green
8. 3200K
9. High CRI filter

Pic1

Gobo system

- 1 rotating gobo wheel with 8pcs bidirectional rotation and location gobos, auto-rotating, water running, and shaking effects; 16bit positioned.(Pic 2)



Pic2

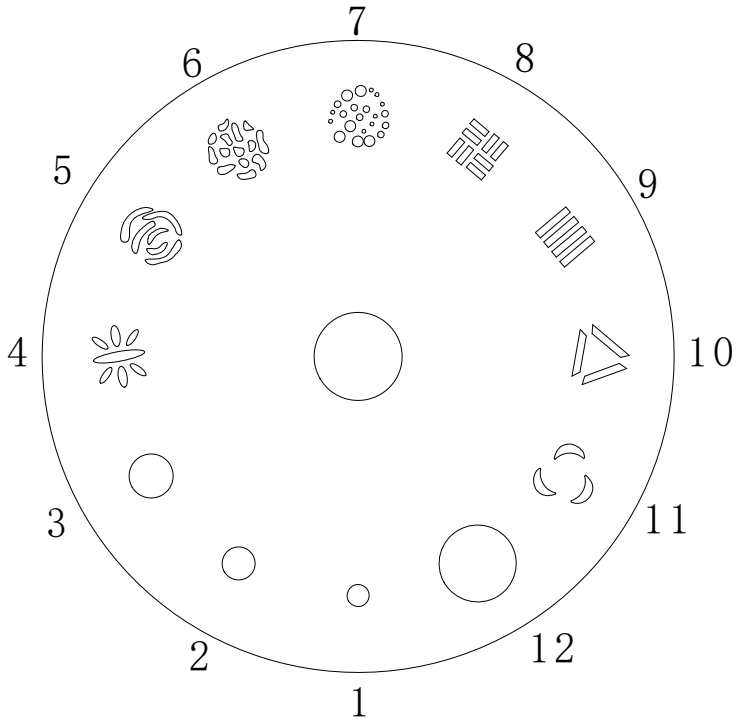
Gobo Specification

Glass gobo is customized what you need.

Customized gobo size:

Gobo material	Outside diameter	Inside diameter	Thickness
Glass	⌀16.4	⌀10㎜	1.1㎜
The glass gobo is coated with high temperature resistant glass			

- 1 fixed gobo wheel with 11 gobos+ white, making bidirectional water running(Pic3)

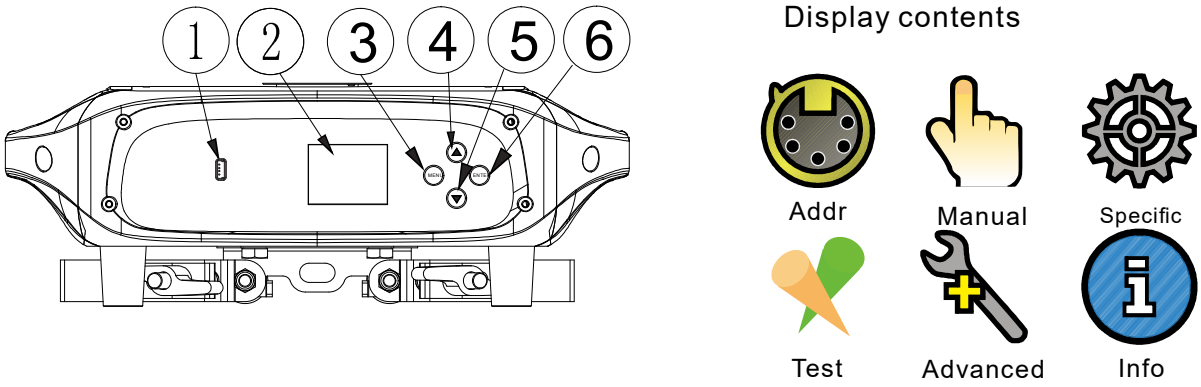


Pic3

Size& Weight:

- Fixture size: 389X271X719 mm
- Fixture net weight:24.5kg
- Minimum and maximum ambient temperature:-20℃～40℃
- IP rate: IP20

Operation Panel



Pic4

As shown in Pic 4:

1.USB interface	2.LCD	3.Left (Return)
4.Up	5.Down	6.Right (Enter)

Operation Panel Instructions

- Up: Choose submenu on a loop, Up-regulation data value on a loop.
- Down: Choose submenu on a loop, Down-regulation data value on a loop.
- Left (return): Back to menu. enter password ”up down up down”, then press 'Enter ' to advanced options.
- Right (Enter): Confirm the data value or choose cycled data window.

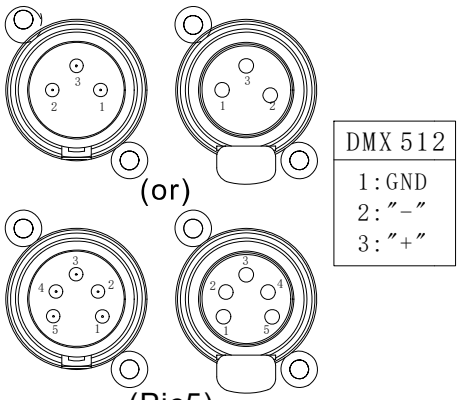
Detailed Operation Table of Display panel

Specific 	1.Pan Inverse	no	
	2.Tilt Inverse	Off,On	
	3.PT Encoder	Off,On	
	4.PT Speed	FAST,NORMAL,SLOW	
	5.Dim Curve	Curve 1,Curve 2,Curve 3,Curve 4	
	6.LED PWM	1.2KHz,6KHz,12KHz,24KHz,25KHz	
	7.Dim Speed	Speed1,Speed2,Speed3,Speed4	
	8.FAN mode	Theater,Quiet,AUTO,HIGH	
	9.Display blackout	Off,On	
	10.Display inverse	Off,On	
	11.Key Lock	Off,On	
	12.Language	English,English2	
	13.Sleep Mode	Off,On	
	14.Fixture Mode	……	
	15.Color Inverse	NO,YES	
	16.Chasing mode	Off,chasing mode1,chasing mode2,chasing mode3	
	EXIT		
Manual 	1.Channel	1.Pan	000~255
		2.Tilt	000~255
		3.Strobe	000~255
		4.Dimmer	000~255
		5.Focus	000~255
		6.Zoom	000~255
		7.Cyan	000~255
		8.Magenta	000~255
		9.Yellow	000~255
		10.CTO	000~255
		11.Color wheel	000~255
		12.Gobo wheel	000~255
		13.R-Gobo	000~255
		14.Fixed GOBO	000~255
		14.Prism1	000~255
		15.R-Prism1	000~255
		16.Prism2	000~255
		17.R-Prism2	000~255
		28.Frost	000~255
		29.CONTROL	000~255
		EXIT	
	2.Fixture Reset	NO,YES	
	EXIT		
Addr 	1.DMX512 Address	001~512	
		EXIT	
	2.Channel Mode	Basic	
		Standard	
		Extend	
		EXIT	
	3.No DMX Mode	Dmx hold	
		Black out	
		EXIT	
	EXIT		

Info 	1.Fixture Hour	Fixture Hour	XXXXXX
		LED Hour	XXXXXX
		Maintenance	XXXXXX
		EXIT	
	2.Version	PANEL ：	XXXX
		XY :	XXXX
		DRV1：	XXXX
		DRV2 ：	XXXX
		DRV3 ：	XXXX
		DRV4 ：	XXXX
		EXIT	
	3.Tempareture	PANEL Temp ：	XXX-XXX
		XY Temp:	XXX-XXX
		DRV1 Temp：	XXX-XXX
		DRV2 Temp：	XXX-XXX
		DRV3 Temp：	XXX-XXX
		DRV4 Temp：	XXX-XXX
		EXIT	
	4.Fan Speed	PANEL Fan：	XXXX-XXXX
		XY Fan:	XXXX-XXXX
		DRV1 Fan：	XXXX-XXXX
		DRV2 Fan：	XXXX-XXXX
		DRV3 Fan：	XXXX-XXXX
		DRV4 Fan：	XXXX-XXXX
		EXIT	
	5.RDM ID	XXXXXXXX	
		EXIT	
	6.System Error	NONE	
		EXIT	
	EXIT		
Adcanced 	1.Factory Reset	NO	
		YES	
		EXIT	
	2.Fixture Time Reset	NO	
		YES	
		EXIT	
	3.Calibration	……	
		EXIT	
	EXIT		
Test 	1.Auto test		
		NO	
		YES	
		EXIT	
	EXIT		

Signal connection

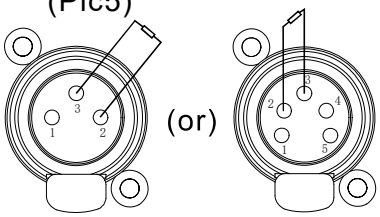
The fixture adopts 3pin/5pin socket to control DMX input and output,Pin1 is connected to grounded, Pin2 is connected to" -", Pin3 is connected to"+"(Pic5).



(Pic5)

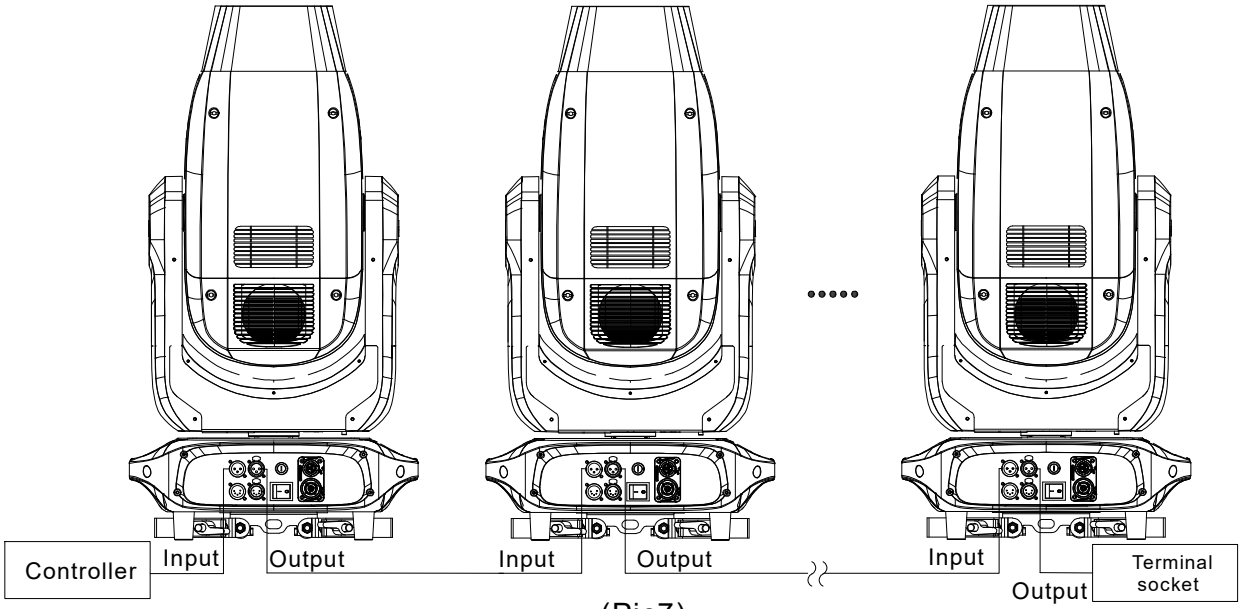
Please adopt professional DMX512 STP signal cable, which is usually connected in 150m, when need signal as long distance transmission, please add DMX 512 signal amplifier.

To avoid the signal reflection in transmission, please add a terminal which is 120Ω 1/4W resistance between DMX output pin2 and pin 3 of the last fixture. Plug the pin to the DMX output connector of the last fixture. (Pic6)



(Pic6)
Terminal socket

Connect the fixture from the DMX output of controller to DMX input of the first fixture, and then output to the second… until to connect the last fixture. Then please install a terminal plug in DMX output of the last fixture. (Pic 6) Connection as bellow. (Pic7)



(Pic7)

Notice:

- Don't use multi- output connecter for connecting separately, if needing, it must connect the branch with DMX512 signal amplifier to separate them.
- Standard amplifier cable is not reliable for long-distance date transmission; it must adopt professional DMX 512 STP signal cable.
- The signal of the fixture only has one input and one output. Two input/output for each fixture are not available.

Power connection

Input voltage and frequency must be identical to the voltage and frequency marked on the fixture. When many fixtures are working at the same time, it is strongly recommended to control each fixture on/off individually.

Connection type

	Live or L	Neutral or N	Earth, Ground or ⏚
US system	Black	White	Green
EU system	Brown	Blue	Yellow/green

Notice:

- When connect power supply, please make sure the E line (yellow &green.) is properly connected. And it is corresponded with the relative electrical installation standards.
- Insulation class between LV power supply and controlling conductor: Ⅰ
- Please confirm the voltage of the power supply is corresponded to the voltage on the fixture's identifications before professionals install it. Please also make sure it has overload or leakage protection.
- If the external cable is damaged, don't change it by yourself, please contact the manufacture/local as soon as possible.
- AC220V:Lighting fixture connection not surpass 4 units（2.5mm² ）.
- AC100V:Lighting fixture connection not surpass 2 units（2.5mm² ）.

Installation specification

Installation points for attention

- To prevent the dirt and oil leave on the lens, please do not touch the lens of LED with bare hands when you change LED beads.
- Please do not install other similar LED or this action may lead to safety issues and damage to the fixture. We do not take any responsibility if you use other similar LED. We strongly suggested to use the LED model that we recommend.
- For lower the risk of damage the fixture, please change the LED before it exceed its lifespan.
- It is forbidden to use LED which is damaged or scratched.

Installation instruction& requirement

The user need to make regularly inspect the safety fixtures and installing parts, if there is lack of operating conditions and professional standards, please operate it by professional person, to avoid to incorrect installation by non-professional person leading to property loss or life danger.

Make sure there is no damage to rigging and clamps and they can bear at least 6 times weight of thefixture. Check if the truss or pipe construction can bear at least 6 times total weight of all equipment, clamps,cables and accessories.

G-clamp Installation

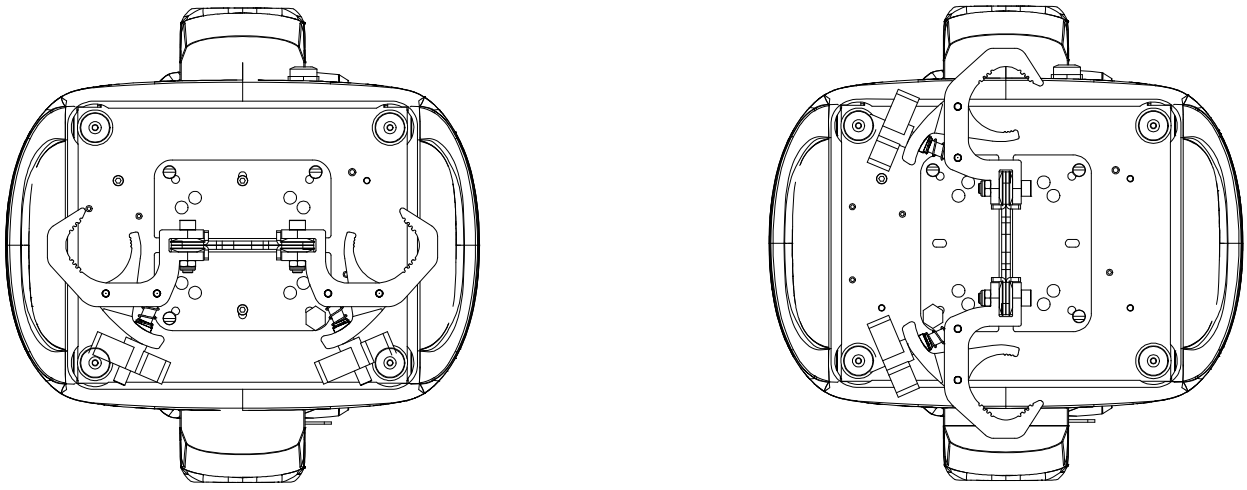
- The G-clamp is integrated with the fixture (pic 8).

Fixture installation

Fixture is installed on the stage or truss, and the G-clamp can be locked on the truss tightly. (Pic9)

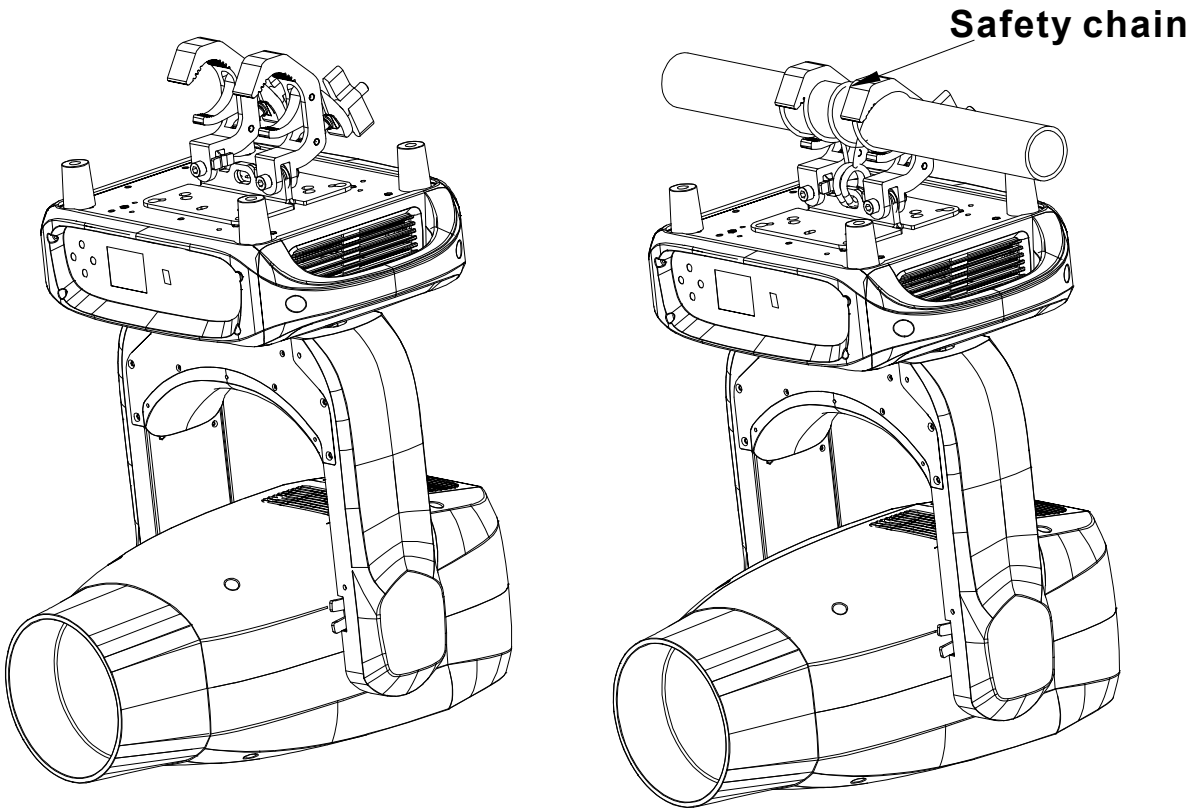
Notice:

- User must check the G-clamp and safety chain are damaged or not.
- The fixture must be fixed by two G-clamps, clockwise rotate them to fast-lock tightly, and add a safety rope onto the hole that designed for the safety rope in the base of the fixture, it is prohibited to connect it to the handle.
- Please unlock the lock of tilt before power on.
- Side hanging for long time is not recommended.



Horizontal direction　　Vertical direction

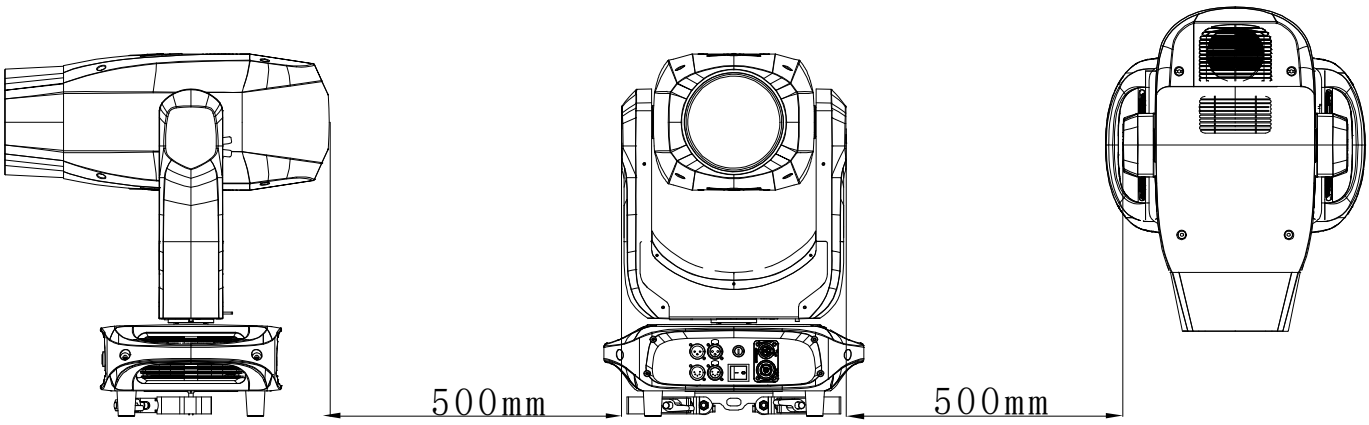
Pic8



Pic9

Fixture placement

Please check inflammables or others near the fixture when placing the fixture,
The shortest safety distance between the adjacent fixture ≥0. 5m. the layout is as bellow (Pic10)



Pic10

DMX Channel Sheet

Channel	23CH	26CH	37CH
1	Pan	Pan	Pan
2	Pan fine	Pan fine	Pan fine
3	Tilt	Tilt	Tilt
4	Tilt fine	Tilt fine	Tilt fine
5	Strobe	Strobe	Strobe
6	Dimmer	Dimmer	Dimmer
7	Dimmer fine	Dimmer fine	Dimmer fine
8	Focus	Focus	Focus
9	Zoom	Focus fine	Focus fine
10	Cyan	Zoom	Zoom
11	Magenta	Zoom fine	Zoom fine
12	Yellow	Cyan	Cyan
13	CTO	Magenta	Cyan fine
14	Color wheel	Yellow	Magenta
15	Gobo1	CTO	Magenta fine
16	Gobo1 rotation	Color wheel	Yellow
17	Fixed gobo wheel	Gobo1	Yellow fine
18	Prism1	Gobo1 rotation	CTO
19	Prism rotation1	Gobo1 rotation fine	CTO fine
20	Prism2	Fixed gobo wheel	Color wheel
21	Prism rotation2	Prism1	Color wheel fine
22	Frost	Prism rotation1	Gobo1
23	Fixture control	Prism2	Gobo1 rotation
24	–	Prism rotation2	Gobo1 rotation fine
25	–	Frost	Fixed gobo wheel
26	–	Fixture control	Fixed gobo wheel fine
27	–	–	Prism1
28	–	–	Prism rotation1
29	–	–	Prism2
30	–	–	Prism rotation2
31	–	–	Frost
32	–	–	Frost fine
33	–	–	Fixture control
34	–	–	Pan/Tilt speed
35	–	–	Color speed
36	–	–	Focus/Zoom speed
37	–	–	Gobo speed

DMX Channel Control Details

23CH	26CH	37CH	Character	DMX Value	Function
1	1	1	Pan	0-255	Movement 0°->540°
2	2	2	Pan fine		
3	3	3	Tilt	0-255	Movement 0°->252°
4	4	4	Tilt fine		
5	5	5	Strobe	0-19	Closed
				20-49	Open
				50-200	Strobe from slow to fast
				201-210	Open
				211-255	Random Strobe from slow fast
6	6	6	Dimmer	0-255	0%->100% Closed->Open
7	7	7	Dimmer fine		
8	8	8	Focus	0-255	Far->Near
-	9	9	Focus fine		
9	10	10	Zoom	0-255	Zoom from small to lange
-	11	11	Zoom fine		
10	12	12	Cyan	0-255	0%->100%
-	**-**	13	Cyan fine		
11	13	14	Magenta	0-255	0%->100%
-	**-**	15	Magenta fine		
12	14	16	Yellow	0-255	0%->100%
-	**-**	17	Yellow fine		
13	15	18	CTO	0-255	0%->100% Cold tune->Warm tune
-	**-**	19	CTO fine	0-255	
14	16	20	Color wheel		Color linear movement
				0-136	Color linear movement
				137-141	White
					Color changed
				142-146	Color 1
				147-151	Color 2
				152-156	Color 3
				157-161	Color 4
				162-166	Color 5
				167-171	Color 6
				172-176	Color 7
				177-181	Color 8
				182-186	Color 9
				187-191	White
				192-222	Color rotation from fast to slow
				223-224	Stop
				225-255	Color rotation from fast to slow
-	**-**	21	Color wheel fine		
					Positioning mode
				0-10	White
				11-17	Gobo 1
				18-24	Gobo 2
				25-31	Gobo 3

15	17	22	Gobo1	32-38	Gobo 4
				39-45	Gobo 5
				46-52	Gobo 6
				53-59	Gobo 7
				60-66	Gobo 8
					Shaking mode
				67-73	Gobo 1
				74-80	Gobo 2
				81-87	Gobo 3
				88-94	Gobo 4
				95-101	Gobo 5
				102-108	Gobo 6
				109-115	Gobo 7
				116-122	Gobo 8
					Shaking mode
				123-190	Clockwise rotation,Fast->slow
				191-192	Stop
				193-255	Anticlockwise rotation,Fast->slow
16	18	23	Gobo1 rotation		Positioning mode
				0-120	0~360°
				121-125	Stop
				126-165	Gobo shaking from slow to fast
				166-170	Stop
				171-210	Clockwise rotation,Fast->slow
				211-215	Stop
				216-255	Anticlockwise rotation,Fast->slow
-	19	24	Gobo1 rotation fine	0-255	
17	20	25	Fixed gobo wheel		Gobo changed
				0-3	White
				4-8	Gobo 1
				9-13	Gobo 2
				14-18	Gobo 3
				19-23	Gobo 4
				24-28	Gobo 5
				29-33	Gobo 6
				34-38	Gobo 7
				39-43	Gobo 8
				44-48	Gobo 9
				49-53	Gobo 10
				54-58	Gobo 11
					Shaking mode
				59-64	Gobo 1
				65-70	Gobo 2
				71-76	Gobo 3
				77-82	Gobo 4
				83-88	Gobo 5
				89-94	Gobo 6

				95-100	Gobo 7
				101-106	Gobo 8
				107-112	Gobo 9
				113-118	Gobo 10
				119-124	Gobo 11
				125-127	White
				128-190	Gobo rotation from fast to slow
				191-192	Stop
				193-255	Gobo rotation from fast to slow
-	-	26	Fixed gobo wheel fine		
18	21	27	Prism1	0-10	White
				11-255	Prism insert
19	22	28	Prism rotation1	Prism lacation	
				000-145	Prism linear rotation 0~360°)
				146-150	Stop
				151-200	Anticlockwise rotation from slow to fast
				201-205	Non-rotation
				206-255	Clockwise rotation from slow to fast
20	23	29	Prism2	0-10	White
				11-255	Prism insert
21	24	30	Prism rotation2	Prism lacation	
				000-145	Prism linear rotation 0~360°)
				146-150	Stop
				151-200	Anticlockwise rotation from slow to fast
				201-205	Non-rotation
				206-255	Clockwise rotation from slow to fast
22	25	31	Frost	0-10	White
				11-255	White insert
-	-	32	Frost fine		
23	26	33	Fixture control	0-9	Non function
				10-14	Fixture reset
				15-29	Reserved
				30-34	Pan/tilt reset
				50-54	1.2KHz
				55-59	6 KHz
				60-64	12KHz
				65-69	24KHz
				145-255	Reserved
-	-	34	Pan/Tilt speed	0-255	Stepping time from fast to slow
-	-	35	Color speed	0-255	Stepping time from fast to slow
-	-	36	Focus/Zoom speed	0-255	Stepping time from fast to slow
-	-	37	Gobo speed	0-255	Stepping time from fast to slow

Fixture maintenance& cleaning

The fixture needs to be daily cleaning and maintenance, because its lifespan depends on working environment and daily maintenance. Please contact company engineer for any questions and feedback any other maintenance problems out of the manual to our professional engineer.

Notes as bellow: 

- Must cut off the power supply before open the shell.
- Please open the shell after the fixture cooling completely
- Cleaning the optics components gently to avoid scratching the surface coating, Don't use any harmful liquid or hard objects to avoid damaging plastic and scratching the surface coating;
- Wiping the particulate Matter with tasteless tissue-paper or cotton cloth with clean, distilled water. Don't wipe the surface, but blow away floating things with pressure gas, any residues must be cleaned with distilled water from center to edge, and then dry it with soft cotton cloth
- Please change the lens in time when it cracks or has other damages
- It is out of warranty any damage caused by fan with overmuch dust, smoke fluidity and abnormal using fixture.
- There is temperature protection device of the fixture, when the temperature is so high that the lamp is off automatically, when this happens, please check the fan is working well or not, checking he fan filter is blocked by dust. Only reset the fixture after the qualified professional technicians troubleshoot well.
- Weekly cleaning and maintenance for the fan filters and lens. Do a complete maintenance in half a year.

Fault treatment

The following are some problems in process of operation, and there are some suggestions for troubleshooting:

Fixture doesn't response, when power on

- Check if power input is normal.
- Check if power switch is on.
- Check if fuse is burned.

Not controlled by the console:

- Check if the display is flicker, if yes, check if DMX signal connector and signal cable are connected well.
- If not flicker, but still no response to control channel, please check if IP address is correct set.
- If DMX signal is not stable, please check XLR socket and signal cable are connected well.

  Change another console for testing.

Some channel failure:

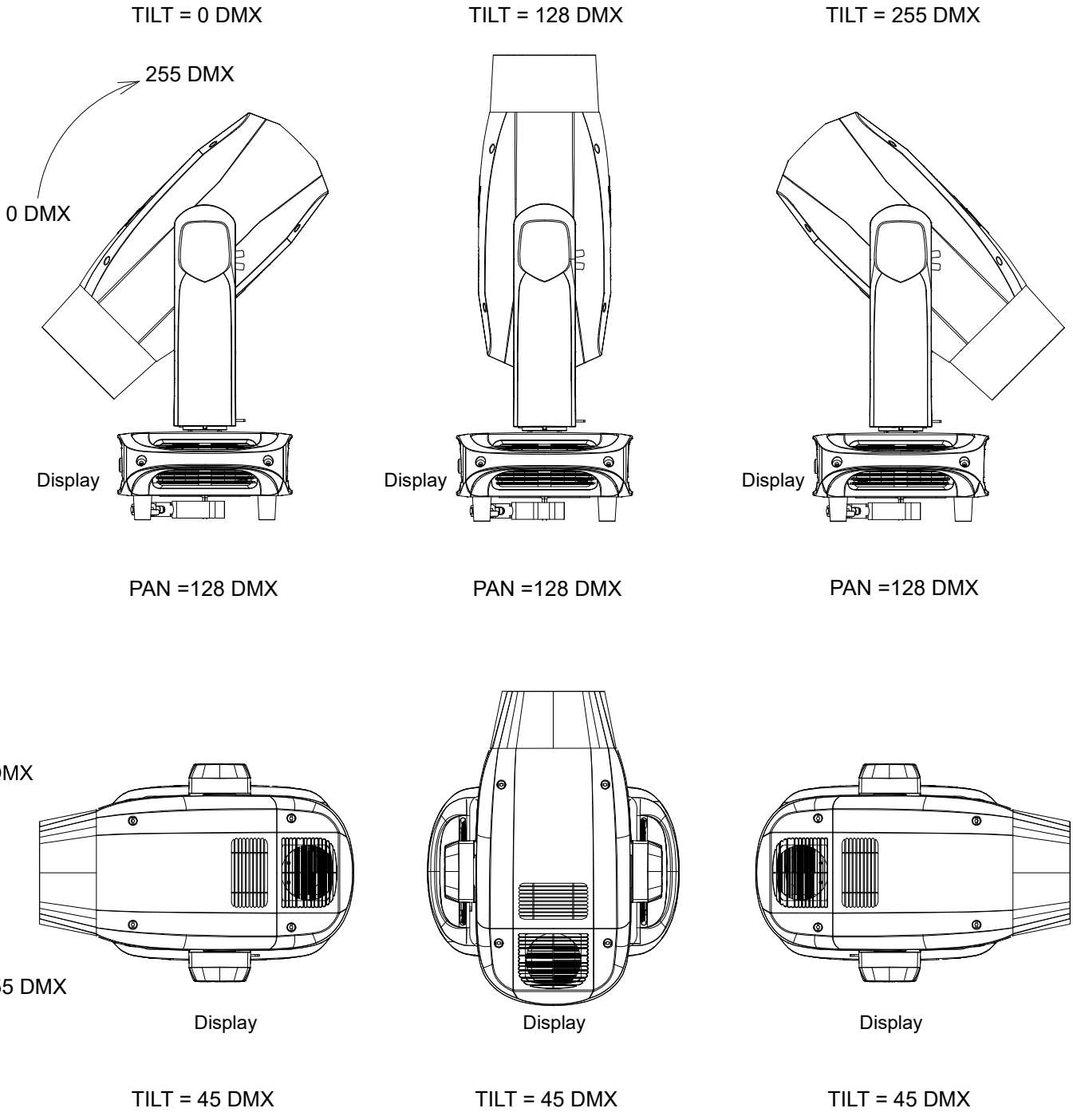
- Maybe step motor or motor leading wire are damaged.
- Maybe drive circuit of motor is damaged.

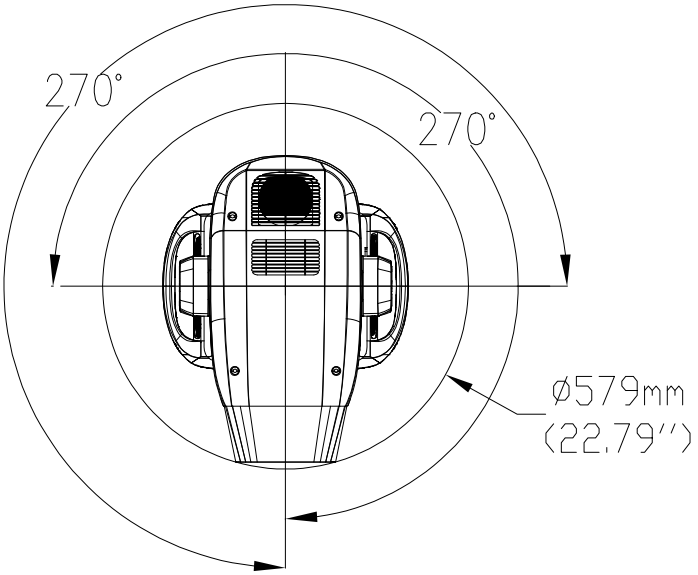
Sometimes leds on sometimes lamp off:

- Check if the voltage is too high or too low, when the lamp is abnormal lighting.
- It is necessary of changing the fan, if inner temperature is too high.

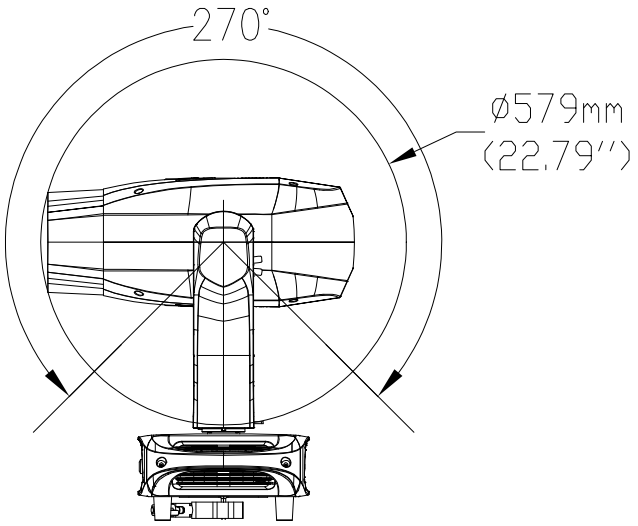
Attachment1:Angle range and the measurement figure of the fixture

● **Fixture using angle range**



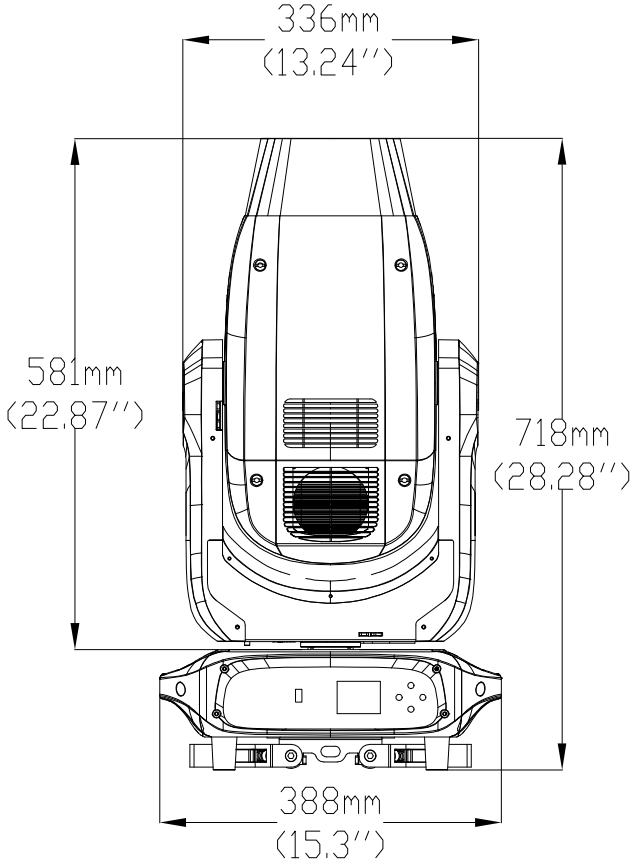


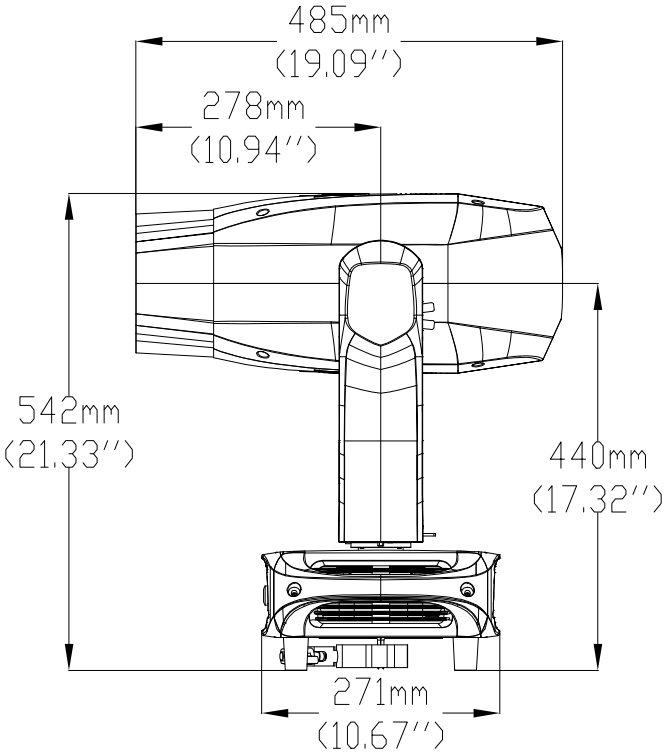
Horizontal direction



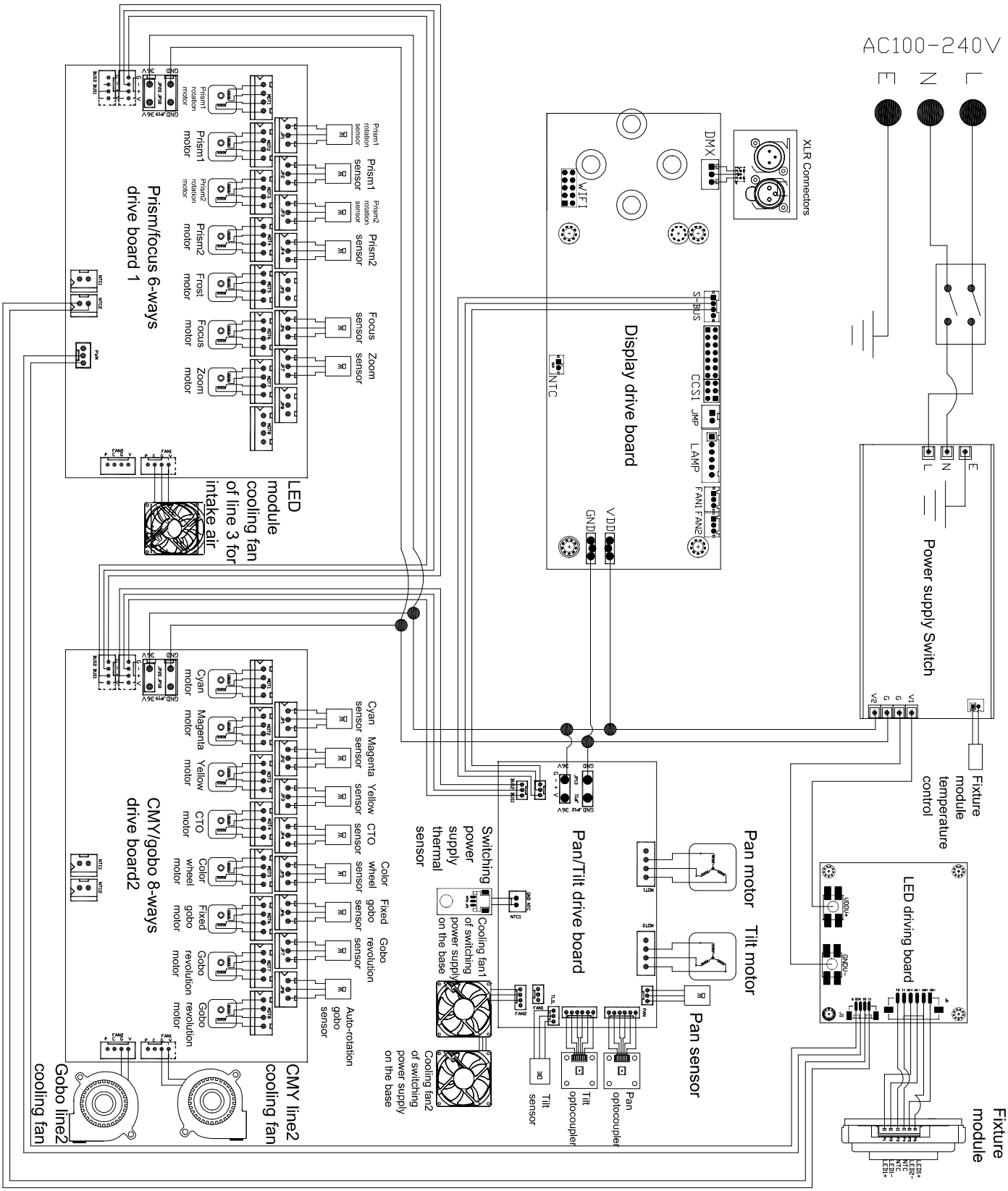
Vertical direction

● **Fixture Dimension Drawing**





Attachment 2: Electrical Diagram



ADD. No.21,Ruixiang Road,Xinhua Industrial Zone.Huadu District,Guangzhou
Tel. 020 - 8161 2345
Fax. 020 - 3686 6631
Website：www.dlw-lighting.com