

FLY DRAGON LIGHTING EQUIPMENT CO.,LTD

## **SUPER SCOPE PRO**

# **LIGHT SKY**®

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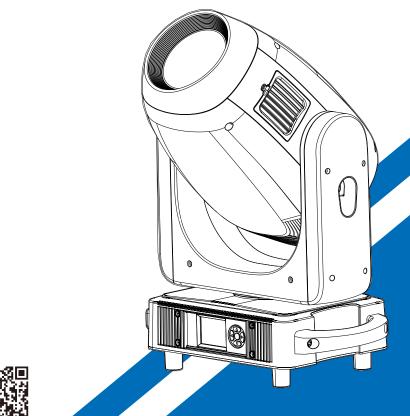
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LIGHT SKY



Please read the instruction carefully before use

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### Congratulations on choosing our company product! We thank you for your custom.

- Please keep in mind that this product, like other products of the company, adheres to the concept of people-oriented design and manufacture, and takes product quality as the foundation.
- ◆ We put the interests of customers first, and do our best to meet customer requirements.
- Please read this instruction manual carefully and keep it for future reference. In the case of fully understanding the product information, strictly abide by the Use the instruction manual to ensure that the product is installed, used and serviced correctly and safely.
- Our company is not responsible for any damage to lamps or other performance due to personal failure to follow the instructions during installation, use and maintenance.responsibility.
- Our company reserves the right to modify the manual at any time and without prior notice.

### 1.Safety Instructions

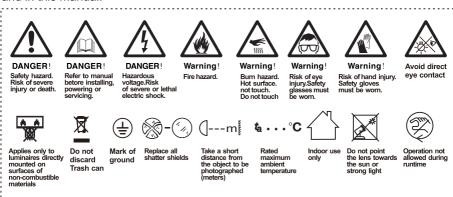


Please read the instruction carefully which includes important information about the installation, usage and maintenance.

#### WARNING

Please keep this User Manual for future consultation. If you sell the unit to another user, be sure that they also receive this manual.

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



### Important:

## Damages caused by the disregard of this user manual are not subject to warranty. The dealer will not accept liability for any resulting defects or problems.

- Unpack and check carefully to ensure that there is no transportation damage before using the unit.
- This product is for indoor use only. Use only in a dry location.
- Do install and operate by qualified operator.
- The light source in this luminaire should be replaced by the manufacturer or its service agent
  or a similarly qualified person, always cut off the power supply before replacing he light
  source.
- Do not allow children to operate the fixture.
- Use safety chain when fixing the unit. Handle the unit by carrying its base instead of head only.

- The unit must be installed in a location with adequate ventilation, at least 20cm from adjacent surfaces.
- Be sure that no ventilation slots is blocked, otherwise the unit will be overheated.
- Before operation, ensure that you are connecting this product to the proper voltage in accordance with the specifications in this manual or on the product's specification label.
- It's important to ground the yellow/green conductor to earth in order to avoid electric shock.
- Minimum ambient temperature Ta: 0°C. Maximum ambient temperature Ta: 40°C.
   Do not operate this product at a lower or higher temperature.
- Do not connect the device to any dimmer pack.
- When the lamp is running, do not place combustible objects next to it. The shortest distance between the device and inflammable and explosive objects or materials is 0.5m.
- Make sure the power cord is not crimped or damaged; replace it immediately if damaged.
- Unit's surface temperature may reach up to 80°C. do not touch the housing bare-handedduring its operation.
- Avoid any flammable liquids, water or metal from entering the unit. Once it happens, cut off the mains power immediately.
- Do not operate in a dirty or dusty environment, do clean the fixture regularly.
- Do not touch any wire during operation as there might be a hazard of electric shock.
- Avoid entanglement of the power cord with other wires.
- The minimum distance to objects/surface must be more than 3 meters.
- In the event of serious operating problem, stop using the unit immediately.
- Never turn on and off the unit time after time.
- The housing, the lenses, or the ultraviolet filter must be replaced if they are visibly damaged.
- Do not open the housing as there are no user serviceable parts inside.
- Do not attempt to operate this unit if it becomes damaged. do not attempt any
  repairs yourself. Repairs carried out by unskilled people can lead to damage or
  malfunction. Please contact the nearest authorized technical assistance center if needed.
- Disconnect this product from its power source before servicing.
- Do use the original packaging if the device is to be transported.
- Avoid direct eye exposure to the light source while the product is on.

• Do not operate this product if you see damage on the housing, shields, or cables. Have the damaged parts replaced by an authorized technician at once.

### Installation:

The fixture should be fixed on the clamp. Always ensure that the unit is firmly fixed to avoid vibration and slipping off during operation. Ensure that the trussing or area of installation must be able to hold 10 times the weight without any deformation. Always install a safety cable that can hold at least 12 times the weight of the fixture when installing do install and operate by qualified operator. It must be installed in a place where there is out of the reach of people.

### 2. Technical Specifications

#### **OPTICAL**

- Light source: 450W white LED module

- Zoom range: 4°-53°

- Optical lens: coated with high anti-reflection coating, diameter 133mm

- Color temperature: 6500K

- Color rendering index: RA≥70 / RA≥90 (cut into high rendering index filter)

Illuminance: 26000 Lux@10mLuminous flux: 21000 Lm

- Light source lifespan: ≥ 20000H

#### COLOR

- CMY infinite color mixing
- CTO color temperature linear adjustment (3000K-6500K)
- 5 color chips + high-resolution finger + white light, can realize two-way color rainbow, two-color step-by-step gradient (linear movement), two-way rotation of color wheel, random color mode.

#### **PATTERN**

- Rotating gobo wheel:7 kinds of glass patterns + white circle, pluggable and replaceable, can realize
  rotation, flowing water, shaking effects, the outer diameter of the gobo is 22.9mm, and the inner diameter of
  the gobo is 15mm.
- Effect disc (water texture)+CTO color temperature linear adjustment, which can achieve flowing and shaking effects.
- Eight-direction cutting: 4 pieces of gratings can achieve fast and smooth cutting, and the eight cutting
  directions and angles can be controlled separately, each single piece can achieve complete light closure,
  and the entire cutting module can be rotated ±45°.

#### **EFFECT**

- Prism: 4 prism, capable of bidirectional rotation.
- Soft light effect: adjustable independent soft light effect.
- With electric aperture. 5-100% linear adjustment, with macro function and multi-effect change.
- Electronic dimming, 0-100% linear dimming, uniform light spot
- Electronic strobe speed is 1-25 times/second
- LED refresh rate: 1000Hz ~ 25KHz

#### CONTROL

- Control channel: 33CH \ 36CH
- Protocol: standard DMX512, RDM, ArtNet
- Data connection: three-core or five-core signal input/output
- Display: LCD liquid crystal screen

#### **SOFTWARE**

- Software upgrade via USB or DMX interface
- Intelligent temperature control to ensure LED life

### X, Y AXIS MOVEMENT

- X axis: 540° 8bit/16bit precision scanning
- Y axis: 270° 8bit/16bit precision scanning

#### POWER AND POWER

- Input voltage rangr: AC 100-240V ~ 50/60Hz
- Maximum power:520W
- Power factor: 0.98

### SIZE AND WEIGHT

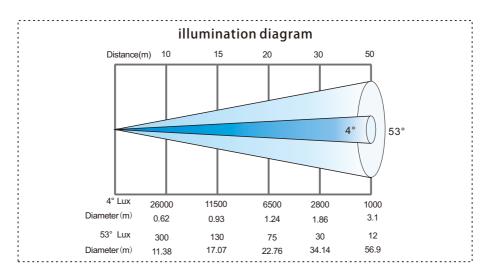
- size: 442mm×262mm×648mm
- N.W: 26.3kg
- Carton packing (default): 495mm×365mm×755mm G.W: 32. 1kg (include foldable clamp)
- Flycase Size(2 sets): 730×575×845mm G.W: 95.3 Kg

### **OTHER**

- Protection class: Ip20
- Working environment: 0°C ~ 40°C
- Maximum surface temperature of the lamp body: 80°C
- Maximum lamp current: 5.2A/110V; 2.6A/220V
- Optional accessories: FAST LOCK

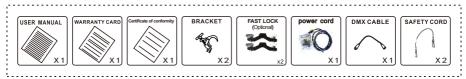
#### **APPROVALS**

- The product implementation standard: GB 7000.1-2015 GB7000. 217-2008
- Approved certifications: CE , RoHs
- The product complies with the following EU directives:
- Low Voltage Directive 2014/35/EU . EMC Directive 2014/30/EU

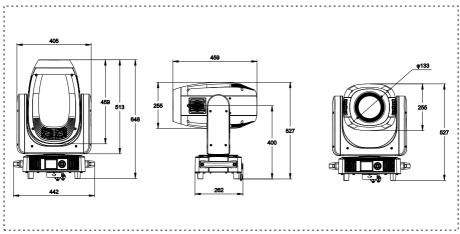


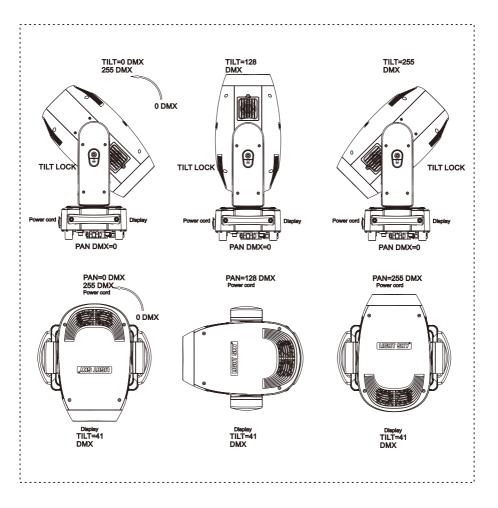
## 2.1.Attachment And Size

## Attachment contents-Fig.1

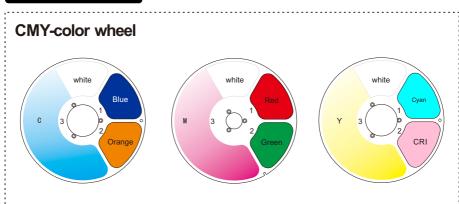


Size-Fig.2

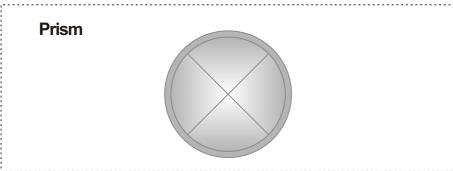




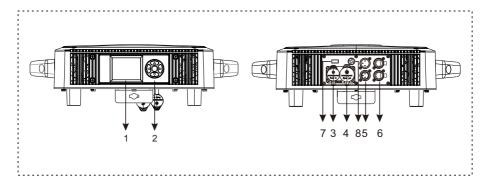
## 3.Color/Gobo/Prism







### **4.Control Panel**



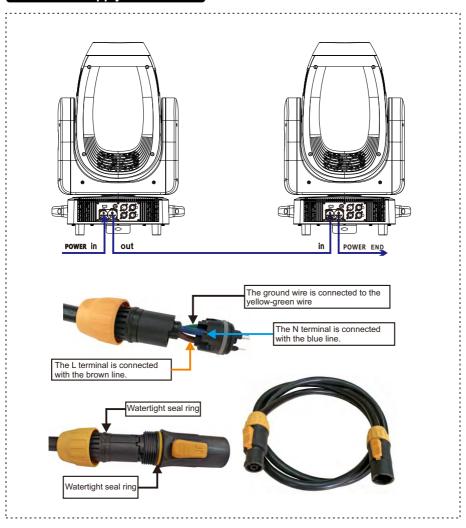
- 1. Display: To show the various menus and the selected function.
- 2. Button:

	OK confirmation key				
	UP				
•	DOWN				
•	To the left				
	To the right				

- 3. Socket version power input: connect the power supply.
- 4. Power output: Connect the lamp power output adapter.
- 5.DMX inputloutput: Used for DMX512 connection, use 3/5 core XLR signal cable toconnect console and lamps,And input/output DMX signal.
- 6.Art-net: The information of the lamp can be transmitted to the main controllerthrough the network cable, and the lamp can be controlled through RJ45(optional).
- 7. Firmware upgrade: Used to upgrade the fixture's firmware.
- 8.FUSE:10A.

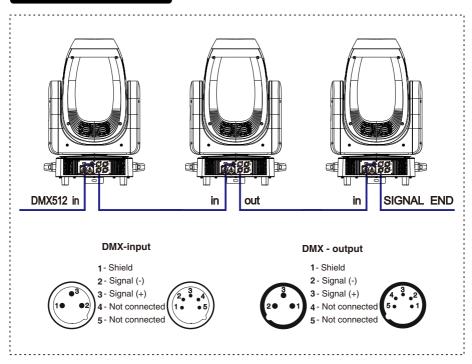
## 5.Connection and control

## 5.1.Power supply connection



- The bus connecting the power supply must be installed by a qualified professional technician.
- After completing all the above operations and ensuring that it is installed, you can power on the lamp to operate.

### 5.2.DMX 512 Connection



- 1. At last unit, the DMX cable has to be terminated with a terminator. Solder a 1200hm 1/4W resistor between pin 2(DMX-) and pin 3(DMX+) into a 3-pin XLR-plug and plug it in the DMX-output of the last unit.
- 2. Connect the unit together in a "daisy chain" by XLR plug cable from the output of the unit to the input of the next unit. The cable cannot be branched or split to a "Y" cable. DMX 512 is a very high-speed signal. Inadequate or damaged cables, soldered joints or corroded connectors can easily distort the signal and shut down the system.
- 3. The DMX output and input connectors are pass-through to maintain the DMX circuit, when one of the units' power is disconnected.
- 4. Each lighting unit needs to have a DMX address to receive the data by the controller. The address number is between 1-512.
- 5. The end of the DMX 512 system should be terminated to reduce signal errors.
- 6. 3 pin XLR connectors are more popular than 5 pins XLR.
- 3 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+)
- 5 pin XLR: Pin 1: GND, Pin 2: Negative signal (-), Pin 3: Positive signal (+), Pin4, Pin5 not used.

## 6.How To Set The Unit

### 6.1.Main Function

Turn on the fixture, press the OK button to enter the menu mode, use the UP/DOWN buttons to find the menu, when the preset menu is shown on the display, press the OK button to confirm, use the UP/DOWN buttons to select a submenu, then press the OK button to save Settings, use the left button to return to the previous menu. The main functions are as follows:

Main menu		I menu		II menu		III menu		IV menu
		Address	-	1-512				
DMX SETTING	_	Channel mode		Standard (33)				
	ľ	Channel mode		Extended (36)				
		Input mode	-	DMX 512				
		Input mode		Artnet				
		NoDMX State		Black				
		NODMA State		Hold				
				Power on time		0 - 99999Н		
		Fixture times		LED on time		0 - 99999Н		
				All time		0 - 99999Н		
		Temperatures	<u> </u>	LED TEMP				
			-	Drive TEMP				
		RDM info	_	UID:0x3888XXXXXXXX				
				1. Pan		0 - 255		
	-	DMX live		2. Pan fine	-	0 - 255		
				3		0 - 255		
				Display		VX. XXX		
Info				Pan/Tilt		VX. XXX		
		Version info	-	LED module		VX. XXX		
				Gobo module		VX. XXX	_	
				Blade module		VX. XXX		
	-		_	Zoom module		VX. XXX		
				InFan Voltage				
				OutFan Voltage				
				InFan1				
				InFan2				
		Fan Info		OutFan1				
				OutFan2				
				GoboFan				
				FrameFan				
				HeadFan				
						0FF		
				Pan invert		ON		
		Pan/Tile				0FF		
				Tilt invert		ON		
				Hight Brightness		0.11	_	
		Fan mode		Silent				
		ran mode		Super Silent			_	
		ļ		Super Silent	-	English		
				Language	-			
						Chinese		
				Backlight time	_	Always		
		Display	-	ļ		Auto (30S)		
				Intensity		0 - 100		
						Normal		
Person				Rotation		Rotate 180		
i ci son						Auto		
				IP Address		xxx. xxx. xxx. xxx		
				Mask Address		xxx. xxx. xxx. xxx		
		Art-Net		Net Address		xxx. xxx. xxx. xxx		
				Sub Net Address		xxx. xxx. xxx. xxx		
				Universe Address		xxx		
				Linear				
				Square 1(Default)			-	
		Dimmer Curve	-	Square 2			_	
				SCurve	-+			
		<del>                                     </del>	+				+	
				1000 Hz (Default)		-		
		Led Preq Set		3600 Hz		1	+	
		-		7200 Hz				
	1	1		25000 Hz		I	L_	

Main menu		I menu		II menu		III menu		IV menu
Widin mena	Н	Tillelia	-	1. Pan		0 - 255	+	IV IIICIIG
		Manual Control	١.	2. Pan fine		0 - 255	+	
		manual Control	-	3		0 - 255	+	
			+	Total reset		0 - 255	+	
				Pan/Tilt reset			+	
Manual	-						+	
		Reset	١.	Gobo reset			+	
		Reset	-	Color reset Profile reset			+	
				Focus reset			+	
				Effect reset			+	
	1	Test all	-	Testing			+	
Test	_	Test pan/tilt	٠.	Testing			+	
lest		Test effects	-	Testing			+	
	+-	rest errects	+	Memory IC		OK/Reset/Error	+	
				Angle Sensor		OK/Reset/Error	+	
				Pan Encodeer			+	
				Tilt Encoder		OK/Reset/Error OK/Reset/Error	+	
							+	
				Pan		OK/Reset/Error	+	
				Tilt		OK/Reset/Error	+	
				Zoom		OK/Reset/Error	+	
				Focus		OK/Reset/Error	+	
				Cyan		OK/Reset/Error	+	
		Fixture state	_	Magenta		OK/Reset/Error	+	
				Yellow		OK/Reset/Error	+	
				RotGobo		OK/Reset/Error	+	
				GoboRot		OK/Reset/Error	+	
				Animation		OK/Reset/Error	+	
				Frame		OK/Reset/Error	+	
				FrameRot		OK/Reset/Error	+	
				Iris		OK/Reset/Error	+	
				Prism		OK/Reset/Error	+	
Service	-			Frost		OK/Reset/Error	+	
				Pan		0 - 255	+	
		Adjust	-	Tilt	-	0 - 255	+	
						0 - 255	+	
				Factory Reset	-	YES / NO	4	
						Reset power on timers	4	YES/NO
				Reset timers	-	Reset led timers	_	YES/NO
						Reset all timers	4	YES/NO
								Display
						Simple update	_	Pan/Tilt
						Dimpic apaate		
		Factory	_	Update			Щ.	ALL
	1	1 ac tol y	[	opuare				Display
	1		1		-	Whole update		Pan/Tilt
	1		1		-	whore update		
	1							ALL
	1		1				٦	
	1		1	I I				
	1		1	Logo select			_]	
	1					_	7	

## 6.2.Channel Setting

Enter the MENU menu, select the Personal Settings function, select the channel mode, press the OK button to confirm, you can use the up and down keys to select:33 channels (default), 36channels, Press the OK key to enter the selection confirmation and return to the previous menu.

### 6.3.Address Setting

Enter MENU, select the DMX setting function, select the address code setting, press the OK button to confirm, the current DMX address will be displayed on the display. Use the up/down buttons to select addresses 001~512, and press the OK button to save. Press the OK button to return to the previous menu.

### Please refer to the following diagram to address your DMX512 channel for the first 4 units.

Channel mode	Unit 1 Address	Unit <b>2</b> Address	Unit <b>3</b> Address	Unit <b>4</b> Address
33 CH	1	34	67	100
36 CH	1	37	73	109

## 6.4.DMX 512 Configuration

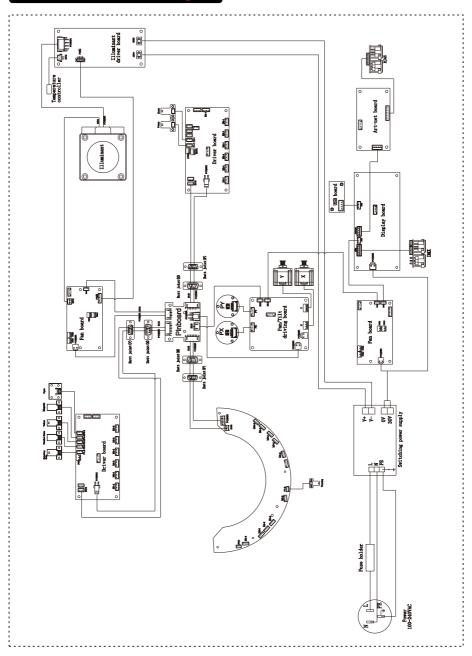
### Please control the fixture by referring to the configurations below

33 Channel	36 Channel	DMX	Function	Note
1	1	0255	Pan positioning	
2	2	0255	Fine Pan positioning	
3	3	0255	Tilt positioning	
4	4	0255	Fine Tilt positioning	
I	5	0255	Speed pan/tilt	
			DeviceSet(Hold 3s)	
		09	No function	
		1019	Fan high speed	
		2029	Fan auto speed	
		3039	Fan slow speed	
		4049	Reset Pan&Tilt	
		5059	Reset CMY	
		6069	Reset Gobo	
		7079	Reset Frame	
		8089	Reset Head	
		9099	Reset other(except P&T)	
		100109	Reset All	
		110119	No function	
		120129	No function	
5	6	130139	Pan invert on	
		140149	Pan invert off	
		150159	Tilt invert on	
		160169	Tilt invert off	
		170177 178185	LED frequency 1kHz LED frequency 3.6kHz	
		186193	LED frequency 7.2kHz	
		194199	LED frequency 25kHz	
		200204	Dimmer curve linear	
		205209	Dimmer curve square	
		210214	Dimmer curve invsquare	
		215219	Dimmer curve "S"	
		220229	Dimmer fast	
		230239	Dimmer smooth	
		240255	No function	
6	7	0255	Cyan	
7	8	0255	Magenta	
8	9	0255	Yellow	
			Virtual ColorWheel	
		05	CMY enable	
		623	Red	
		2441	Green	
		4259	Blue	
9	10	6077	Orange	
		7895	light blue	
		96113	CRI	
		114133	CMY enable	
		134194	virtual Colorwheel CW slow to fast	
		195255	virtual Colorwheel CCW fast to slow	
			RotgoboWheel	
		09	Open	
		1019	RotGobo1	
		2029	RotGobo 2	
		3039	RotGobo 3	
		4049	RotGobo 4	
•	•		•	•

33 Channel	36 Channel	DMX	Function	Note
or chains.	or chamber	5059	RotGobo 5	
		6069	RotGobo 6	
		7079	RotGobo 7	
4.0	44	8087	RotGobo1shake,slow to fast	
10	11	8895	RotGobo2shake,slow to fast	
		96103	RotGobo3shake,slow to fast	
		104111	RotGobo4shake,slow to fast	
		112119	RotGobo5shake,slow to fast	
		120127	RotGobo6shake,slow to fast	
		128135	RotGobo7shake.slow to fast	
		136139	Open	
		140194	RotGoboWheel CW fast to slow	
		195249	RotGoboWheel CCW slow to fast	
		250255	Random Gobo	
			GoboRot	
		0127	GoboRot indexing 0° 360°	
11	12	128189	RotGobo CW fast to slow	
		190193	Stop	1
		194255	RotGobo CCW slow to fast	
12	13	0255	СТО	
			Effect wheel	
13	14	0127	Animation index	
13	14	128255	Animation rotation	
14	15	0255	BladeA position1	
15	16	0255	BladeA position2	
16	17	0255	BladeB position1	
17	18	0255	BladeB position2	
18	19	0255	BladeC position1	
19	20	0255	BladeC position2	
20	21	0255	BladeD position1	
21	22	0255	BladeD position2	
22	23	0255	Frame Rot	
			Framing Macro	
		010	No function	
		1120	Square	
		2130	Rectangle	
		3140	Triangle	
23	24			
23	24	4150	Trapezoid	
		5160	Sector	
		6170	Semi-circle	
		7180	Parallelogram	
		81255	No function	
			Iris	
		0127		
			Iris Indexing	
24	25	128159	Slow close fast open ; slowfast	
		160191	Fast close slow open; slow fast	
		192255	Slow close slow open ;slowfast	
		-	Prism&PrismRot	
		09	Prism out	
		1063	Prism In & indexing	1
		64127	•	]
		0412/	Forwards prism rotation from slow to fast	1

33 Channel	36 Channel	DMX	Function	Note
		128191	Backwards prism rotation from fast to slow	
25	26	192207	prism flickered 90°	
		208223	prism flickered 180°	
		224239	prism flickered 270°	
		240255	prism flickered 360°	
26	27	0255	Frost	
27	28	0255	Focus8bit	
1	29	0255	FocusFine16bit	
28	30	0255	Zoom8bit	
1	31	0255	ZoomFine16bit	
29	32	09 1019 2068 6979 80128 129139 140188 189255 0255	Strobe Strobe closed Strobe open Normal strobe effect slow to fast Strobe open Pulse strobe Strobe open Random strobe Strobe open Dimmer	
31	34	0255	Dimmer Fine	
32	35	0127 128158 159190 191225 226255	Auto Focus Auto Focus Disable 10m Auto Focus Enable 15m Auto Focus Enable 20m Auto Focus Enable 30m Auto Focus Enable	
33	36	0255	Auto FocusFine	

### 7. Electrical Connection Diagram



### 8. Troubleshooting

The following are common faults of lamps and corresponding solutions. Faults that cannot be repaired by yourself should be handled by professionally qualified personnel. Disconnect the power supply to the lamp during maintenance!

### The light source is not bright

- Check that a suitable light source is installed for the luminaire.
- Check whether the power supply connection of the lamp or the control switch is in poor contact.
- Check whether the light source has reached the end of its service life or is damaged, and replace it with a high-quality light source of the same specification.
- Measure whether the power supply is insufficient.
- Check whether the light source has not cooled down completely due to abnormal operation. Let the lamp cool down for more than 15 minutes to allow the light source to cool down. After returning to the normal start-up range, turn the power on again and it can be used normally.
- Check whether the DMX512 controller sends a command to turn on the light source.
- Check whether the light source and trigger circuit are disconnected or defective.
- Check whether the wiring terminals on the internal trigger are in poor contact and tighten the plug.
- Check the "Fan Speed and Voltage" in the "Basic Information" menu to see if the speed of FAN1/FAN2/FAN3 is above 500RPN. If it is below 500RPM, the light source will not light up. Replace the fan with the same specification.
- Check whether the over-temperature protection temperature switch inside the lamp is damaged. Go to the menu "Basic Information" and select "Equipment Temperature" to check whether the temperature measuring plate shows that the temperature is too high or there is no temperature display.

#### The beam appears dim and uneven

- The light source may have reached the end of its service life and does not emit enough light. Replace it with a light source of the same specification.
- Check whether there is dust accumulated in the optical part and clean it.
- Measure whether the power supply is insufficient.
- Finely adjust the screw device used to change the height of the lamp until the ideal light is achieved. Enter the menu "Service Options" and select "Calibration" to enter color and pattern adjustment, which can be adjusted to the center.

#### The projected image is blurry

- Check whether the DMX512 controller channel value corresponding to the electronic focus system is suitable for the current projection distance.
- Check whether the mechanical part of the focusing system is stuck, remove the dust and add antifreeze and temperature-resistant lubricating oil.

### The light source of the lamp works intermittently

- Check whether the fan is running normally or is blocked by dust and paper debris.
- Check whether the inlet and outlet cooling air vents are blocked by dust.
- Check whether the lamp has reached the end of its service life.

- Check whether the power supply is insufficient, and whether the power switch and wiring are in poor contact or aging.
- Check whether the over-temperature protection temperature switch inside the lamp is damaged.

### Although it emits light, the lamp does not accept instructions from the controller

- Check whether the digital start address value and function options of the lamp are correct.
- Check whether the connection of the communication control line is correct. The communication line is too long or has been interrupted.
- Check whether the control equipment fails and whether the signal amplifier connected in series fails.
- Check whether the communication line is too long or if other devices interfere with each other.
- Optimize wiring, shorten the length of control signal lines, and route high-voltage and low-voltage lines separately
- Add signal amplifier isolator.
- The signal line is made of high-quality shielded twisted pair (impedance characteristic is  $75\Omega$ ), and the signal terminal resistor is connected at the end of the lamp.
- Check that the circuit board communication IC or CPU is burned out because the bulb performs an abnormal operation when it is not completely cooled, causing the instantaneous ultra-high voltage leakage generated by the trigger, and replace the PCB board.

#### The lamp cannot be started

- Check whether the power supply parameters match the lamps.
- Check whether the fuse at the light fixture's power input is blown.
- Check that the lamp has poor contact or falls off due to extrusion deformation, vibration of internal parts, moisture, etc. during long-distance transportation.
- Check whether the internal wires and connectors of the lamp are desoldered or loose.
- Check whether the electrical components of the lamp (such as power switch, transformer, ballast, capacitor, varistor, filter, power supply PCB board, motor control PCB board, etc.) are loose, short-circuited, burned out, etc.

### Some functions of the lamp cannot accept controller instructions

- Check whether the control device sends correct action instructions for these functions.
- Check whether the mechanical parts corresponding to these functions are loose or deformed.
- Check whether the motor sockets corresponding to these functions are loose or the corresponding driver chips are burned out.
- Check whether the motor wires corresponding to these functions are broken at the comers.
- Check whether the motors corresponding to these functions are damaged.

### During operation, the x or Y direction of the lamp does not move normally

- Click the previous step to check one by one.
- Check whether the corresponding drive belts in the X and Y directions of the lamp are detached or broken.
- Check whether the data feedback receiver (photoelectric sensor) corresponding to the X and Y directions in the lamp is damaged.
- Restart the computer and reset it once.

### 9.Fixture Cleaning

It is absolutely essential that the fixture is kept clean to ensure the maximum light-output and allow the fixture to function reliably throughout its life. The fixture must be cleaned regularly to avoid dust, dirt and smoke-fluid residues building up on or within the fixture. The cleaning frequency depends on the application environment. Clean the fixture immediately if the dust enters it to avoid damage to the optical lens due to excessive dust.

- \* A soft lint-free cloth moistened with any good glass cleaning fluid is recommended, under no circumstances should solvents be used.
- \* Always dry the parts carefully.
- \* Clean the external optical lens at least every 20 days and the internal optical lens every 30 days.

### CAUTION!!!

Disconnect from mains before starting maintenance operation.

### 10.Duty exonerative and copyright protectio

- \* Light source belongs to consumption products, not within the scope of warranty.
- \* The manufacturer shall not bear any responsibility for any damage caused by failure to operate in accordance with this instruction.
- \* All the information in this manual shall be interpreted by the manufacturer.
- \* All the information in this manual shall not be copied without permission.
- \* The data contained in this statement are subject to change in the future without prior notice.