

DRAGON 700-W BWS
PR-6513

The user manual contains important information about the safe installation and use of a projector. Please read and follow these instructions carefully and keep the manual in a safe place for future reference.

PR LIGHTING LTD.
<http://www.pr-lighting.com>

Important Notice to Clients

It's an electrical product by us and the instructions must be adhered to after the purchase. If the following (but not limited to) things happen, we shouldn't hold any legal obligations.

1. During a projector's transportation, handling, storage and operation, please handle it gently to avoid it being hit, which can cause its housing damaged, its body deformed, water penetrating inside and so on.
2. While idle, a projector should be placed indoors and in relatively dry place and all sockets at the base should be covered by the water-proof covers well. It's forbidden to place a projector in open place to avoid PCB damage by the damp.
3. The wirings inside shouldn't be matched nakedly, but via standard plugs. Strong current wires must be separated from weak current ones and the wires must be connected properly and robustly. It's forbidden to cut plugs and waterproof covers from the wires.
4. Before power on, please ensure the input voltage is the rated one for a projector. The input voltage shouldn't be 110% less and 90% more than the rated one.
5. If a projector is placed in open place, it should be on independent platform or support frame and be ensured there is some clearance between its base and the ground, which is advised to not less than 10cm. The operation place should be higher than its ingress protection level.
6. It's advised to clean dust, oil and other foreign from its internal and external lens and fans to avoid luminance and functions being compromised by dust, oil, foreign and others.
7. If any failures, remove a projector from the truss, store it in the warehouse and notify the technicians from the factory for on-site analysis and repair or repair in the factory. Unqualified person not authorized by the factory is forbidden to dismantle and repair a projector.
8. During the on-site repair, the technician should offer support and help, ensure personal and product safety and keep the product's safe running with the client.

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ACCESSORIES

The following items are supplied with the projector and please check:

Name	Quantity	Unit	Remark
Safety cord	1	Set	Optional
User manual	0	Pc	QR Code
Power cord	0	Pc	Non-independent
XLR cable	0	Pc	Non-independent
Power supply box	1	Set	

The product is tested completely and packed well by the manufacturer. All operators must follow the warning items and operation instructions contained in the user manual strictly. Any damage caused by the wrong operation should not be covered by guarantee. Any failures or issues caused by not following the manual is beyond the responsibility of the dealer.

The user manual is subject to change without notice.

Note: For the products made by Guangzhou PR lighting Ltd, the warranty for the whole product is one year starting from the delivery date but the light source is not within the warranty.








1. SAFETY AND WARNINGS



NOTE

Before a projector's installation, power-on, operation and maintenance, please carefully read the safety information hereinafter!

The following safety signs are used in the user manual.

						
Warning	User Manual	Electrical shock	Goggles	Protective Gloves	Flames	High Temperature




- When unpacking, check if there is transportation damage before using the projector. Should there be any damage caused by transportation, consult your dealer and do not use it.
- The manufacturer is not responsible for loss caused by the user not following the manual or changing the projector as he/she likes.
- Please be noted that the damage caused by changing the projector at will is not warranted.
- Do not hesitate to contact the dealer or the manufacturer if any questions or advice.
- If the light source is damaged, it should be replaced.



- The ingress protection for the head of the underwater lighting fixture is IP68.
- The head of the underwater lighting fixture must be used underwater. Otherwise, the luminous efficacy will decrease because of bad cooling.
- The projector should be kept away from high temperature, fire, electrical surge, vibration and strong light while being operated.
- The projector is only intended for installation, operation and maintenance by qualified personnel. And the operation must strictly follow the procedures in the manual.
- No repairable parts in the projector and do not open covers for maintenance by yourself.



- Don't look straightly into the light sources especially for epileptics, otherwise eyes will be burned. 
- Do not connect this device to any type of dimmer pack.
- Lens and other optical parts shall be replaced immediately if they have deformed or been damaged, otherwise the light output will be compromised.
- For the location of a lighting fixture, it shouldn't be seen in the distance of less than 4 meters.



- Before operation, please check if its head, the power supply control box, mounting frame, waterproof connectors, seals, screws has obvious damages or not and if the cable is crimped or not.
- Keep the light source clean and do not touch it with bare hands.
- While operating it, wear protective items.



- Any electrical connection must be carried out by a qualified person.
- Before installation, please confirm the voltage for the head of the underwater lighting fixture is DC 48V and the head is forbidden to be connected to AC 100V-240V, otherwise it will cause the fixture burned and even safety accident.
- Each projector must be properly earthed and installed as per related electrical standards.
- A power supply control box can only be connected with a underwater head and select enough long waterproof rubber covered cable with copper wire at 4mm² in diameter to control line voltage drop.
- If the projector is not used or under cleaning, please hold the plug and unplug it. Do not unplug it forcefully or by pulling the power cable.
- The input must be connected with earth leakage circuit breaker to ensure all power cords must conform to related safety and regulations.

- All cable connections must be insulated well and waterproof and underwater connections be done via IP68 connectors.
- Do not switch on and off the projector constantly in very short intervals, otherwise the light source's and other electrical parts' life will be shortened .



- Underwater installation: based on the way of installation (embedded/ by frame), fix the head in the location desired and ensure the head is horizontal or at the angle desired. For safety, if it's hung, use a safety cord to run through the arm to ensure safety.
- Before any installation, maintenance and cleaning work, please ensure the projector is disconnected from power mains.



- After stable operation under normal ambient temperature ,the temperature of the external surface of the housing of the LED lighting fixture (the surface of the heat sink) is 70°C after the stable running.
- While the LED is lit for the first time, there will be smoke and strange smell. It's normal and does not mean the projector has some defects.
- While projector running, do not touch the metal housing with bare hand, otherwise get burned.



- Do not mount the projector directly on inflammable surface.
- Do not project the beam straightly on combustible items and the minimum distance between the projector and illuminated items is 10m.
- It's forbidden to immerse the power supply control box in the water or keep it sprayed by the water.
- To avoid sunlight or other light penetrating into the head via the front lens, resulting in high temperature internally causing damages to the projector. Before power-off, please use Tilt channel to move the head and make it facing downward.



- The product meets The General Technical Requirements and Standards for Recycle and Use Of Expired Appliance and Electronic Products.
- When the product meets disposal standards and needs to be disposed, a client needs to dispose and recycle it.

2. INSTRUCTIONS

•CLEANING AND MAINTENANCE

Because the head is underwater for long term, it's easy to accumulate dirt on its front lens ,which will compromise the light output. It is advised to do periodic checks every 3 month and see if there are any cracks in the housing or any accumulated water or mist inside. Cleaning a projector is very necessary to ensure a reliable use. The fixture is with ingress protection of IP68. It is forbidden to dismantle a fixture unless a professional technician advises it's necessary to replace some internal parts.

Periodic check the cooling of the power supply control box to ensure good cooling and not over-temperature.

Cleaning frequency is to be decided by operations and its environment. Use soft cloth and normal detergent for glass for cleaning work. It's advised external optical system be cleaned every 20days. Keep lens clean and do not touch optical parts with bare hands.

SPECIAL NOTE:

It's normal phenomena that there will be mild water mist on the lens while the waterproof product is in use.



- Before any maintenance and cleaning, please ensure the project is off the power.
- Only qualified person is allowed to do maintenance.
- The product is with XLR cables without plugs and the connection of the cables must be with waterproof junction box not lower than IP66

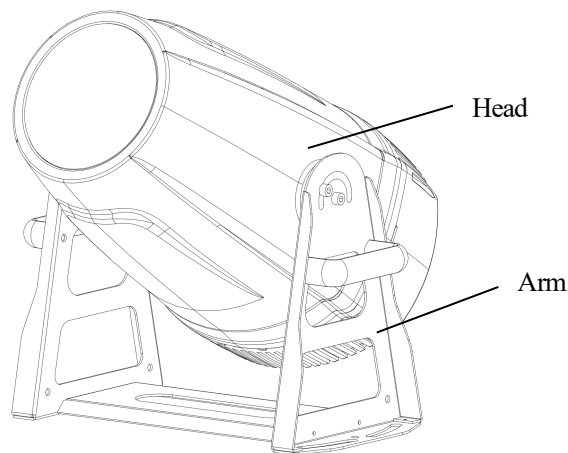


- To avoid sunlight or other light penetrating into the head via the front lens, resulting in high temperature internally causing damages to the projector. Before power-off, please use Tilt channel to move the head and make it facing downward.
- Do not use alcohol or other organic solvent to clean the housing to avoid damage.
- Do not use any solvent with chemical elements to clean color filters or hot mirror.

TROUBLESHOOTING

PROBLEM	ACTION
The projector can't be switched on	<ul style="list-style-type: none"> ➤ Check if the input connection is proper or not ➤ Check if the switching power supply is bad or not connected well. A professional technician is required for the repair ➤ Check if the connection between the power supply control box and the head is proper or not. A professional technician is required for the repair
The projector can be switched on, but the LED lamp's brightness can't be controlled	<ul style="list-style-type: none"> ➤ Check if the LED driver board is connected well. A professional technician is required for the repair
The projector can be switched on normally, but not controlled by the DMX controller	<ul style="list-style-type: none"> ➤ Make sure that the fixture's start address is right ➤ Replace or repair the XLR signal cable.
The beam is not bright and its brightness decreases sharply	<ul style="list-style-type: none"> ➤ Make sure the fans are working well and if there are any fan errors on the display. ➤ Make sure that the external optics is clean. ➤ Check if the line voltage drop is too big or not.
The project image appears to have a halo	<ul style="list-style-type: none"> ➤ Carefully clean the LED lamp, optical lenses and other components.
Heavily Defective Beam	<ul style="list-style-type: none"> ➤ Check if lens are in good condition(not cracked) ➤ Clean dust or grease on the lens.

3. APPEARANCE

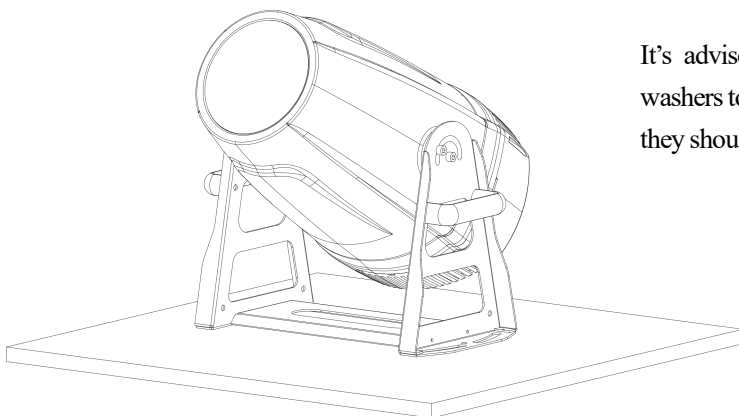


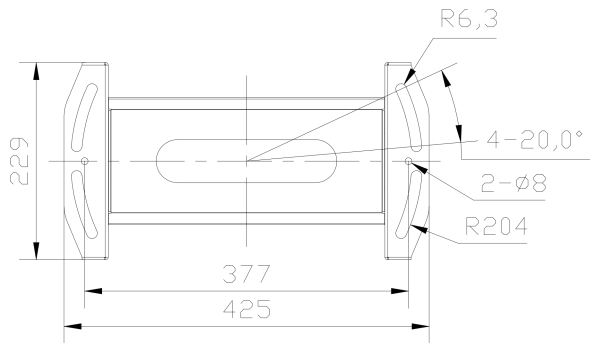
4. INSTALLATION OF THE UNDERWATER LIGHTING FIXTURE

Base on the way of the installation(embedded/ by the frame), fix the head in the location desired and ensure it is horizontal or at the angle desired.

NOTE

It's advised to use hexagon screws coupled with anti-slipping washers to ensure firm installation. Whatever screws may be used, they should not be less than 2 pairs.





The size of the screws are to be decided by the customer based on the size of mounting holes in the arms, the following sizes in the table are only for reference.

NO	NAME	SIZE	QTY	REMARKS
1	Hexagon screws	M12	2	Prepared by the customer
2	Washer	Coupled with the screws	2	Prepared by the customer

• **POWER CONNECTION**

Connect the power cord as follows:

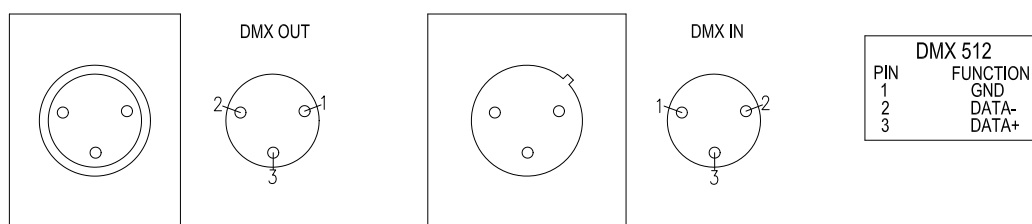
- L (live) =brown
- E (earth) =yellow/green
- N (neutral) =blue

Before power connection, please ensure the power supplied must match what the nameplate says. It is recommended that each projector be connected with power separately so that they may be individually switched on and off.



- **The earth wire (yellow/green) must be connected to the ground. And electrical connection must be in accordance with the standards concerned.**
- **If any questions about the electrical installation, do not continue but consult a qualified electrician.**
- **The XLR cables are without plugs and their connections must be with waterproof junction box with IP66 or above and fix the power supply control box at safe place which is dry with good ventilation and without direct sunshine.**

• **DMX CONTROL CONNECTION:**



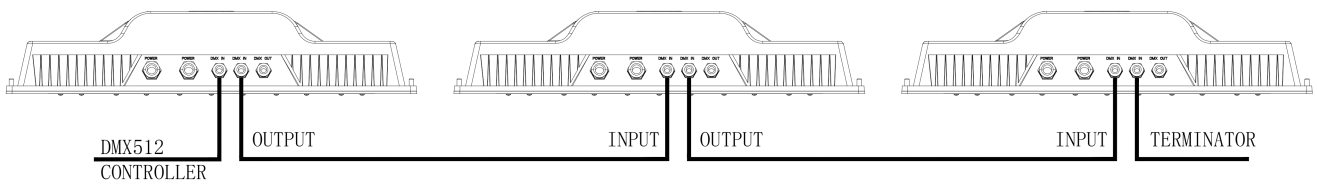
Connection between controller and projector and between one projector and another must be made with a twin-screened cable, with each wire having at least a 0.5mm in diameter. Connection to and from the projector is via cannon 5 pin (which are included with the projector) or 5 pin XLR plugs and sockets. The XLR's are connected as shown in the figure above.

Note: care should be taken to ensure that none of the pins touch the metallic body of the plug or each other. XLR plugs and sockets mustn't be connected in any way other than mentioned in the above figure. The fixture accepts digital control signals in protocol DMX512 (1990).

Connect the controller's DMX output to the first fixture's DMX input, and connect the first fixture's DMX output to the second fixture's DMX input and connect the rest fixtures in the same way. Eventually connect the last fixture's DMX output to a DMX terminator as

shown in the figure below.

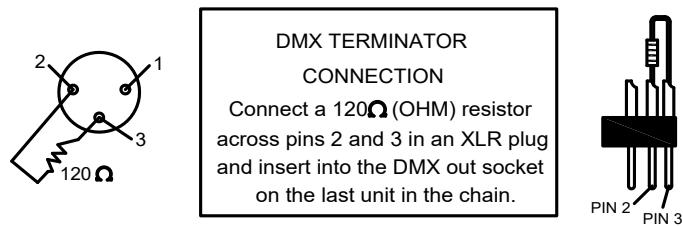
The connections between DMX controller and the fixtures and between the fixtures must use 2-wire shielded cable more than 0.5mm in diameter. (the maximum number of fixtures in a DMX chain is 32 pcs.)



.DMX TERMINATOR

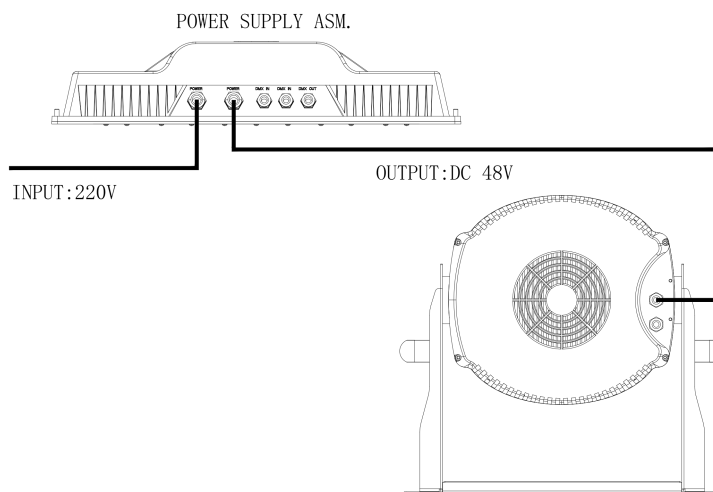
In the Controller mode, at the last fixture in the chain, the DMX output has to be connected with a DMX terminator. This prevents electrical noise from disturbing and corrupting the DMX control signals.

The DMX terminator is simply an XLR connector with a 120Ω (ohm) resistor connected across pins 2 and 3, which is then plugged into the output socket on the last projector in the chain. The connections are illustrated below.

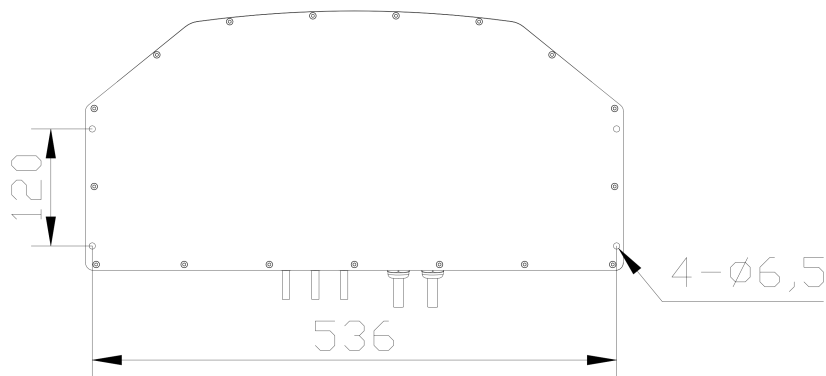


. THE INSTALLATION OF POWER SUPPLY CONTROL BOX

The power supply control box is to power the light fixtures with input voltage 220V/AC and output voltage 48V/DC and the number of the fixtures is not more than 2 pcs in a chain.

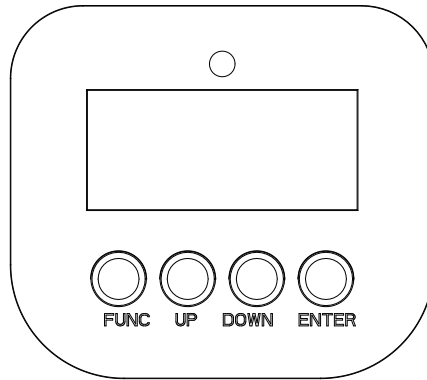


The mounting of the power supply control box



5. SETUP AND CONFIGURATION

•FRONT PANEL OPERATION



Projector's functions and DMX start address can be set conveniently via push button and the display.

Launch the projector and press button **ENTER** for more than 3seconds to unlock the panel, the display will show the function menu of the projector, each main menu has its submenus and each submenu has a specific function. For details, please read the following .

Press button **UP** or **DOWN** if you want to browse through or set the functions.

Press button **ENTER** to save your settings or enter the submenu. Press button **UP** or **DOWN** to change values(plus or minus)

Press button **FUNC**, it will return to the upper menu. If button **FUNC** not pressed, the default will show display status automatically.

If any DMX signal , LED indication is on. Otherwise ,it is off.

• DMX START ADDRESS

Each projector must be given a DMX start address so that the correct projector responds to the correct control signals. This DMX start address is the channel number from which the projector starts to “listen” to the digital control information being sent out from the controller. The projector has 3 DMX modes. There are standard mode ,short mode and extended mode. For example standard mode has 25 channels, so set the No. 1 projector's address 001, No. 2 projector's address 026, No. 3 projector's address 051 and so on.

Switch on the Projector . Press **ENTER** key more than 3 seconds to unlock panel,

Then press **FUNC** key or **UP** or **DOWN** to locate DMX address menu.

Press **ENTER** key to display DMX address.

Press **UP** or **DOWN** key to set the value desired.

Press **ENTER** key to confirm and at the same time go back to the upper level menu ,meaning the projector has stored the start address, after power on next time, the latest set value stored will be shown.

Press the **FUNC** key to go back to the upper level menu.

•STAND-ALONE MODE

Operate the projector without connecting with a controller, enable the master mode through the operation panel, the projector will run in Stand-Alone mode automatically.

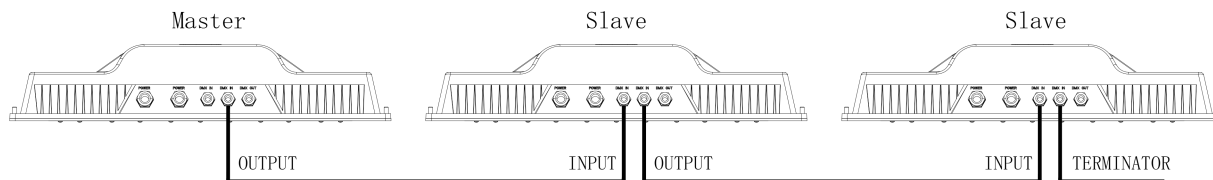
DMX address can be set at any number within 512.

•MASTER/SLAVE MODE

Many projectors can run synchronously in the Master/Slave mode by linking them with each other. First, connect the first fixture's DMX output to the second fixture's DMX input using XLR-XLR control cable and then connect the second fixture's DMX output to the third fixture's DMX input, and so on until all projector are connected in this way. Eventually connect the last fixture's DMX output to a DMX terminator. Set 1st projector as the master and others are Slaves.

Start Addresses of all Slaves are 001; Operation mode of the Master can be set any mode for a Master' and Slaves' operation mode can be set accordingly.

After Powered on, the group will run in Master/Slave Mode.(it's advised 32 pcs of fixtures be connected in a DMX chain at maximum)



.TO SET UP COLOR TEMPERATURE AND COLOR MACRO

A projector has 7 color temperature macros and 89 standard color macros. Color temperatures are for respective 2700K,3000K,3500K,4000K,4500K,5000K and 5700K. Under the DMX channel of CMY macro, color macro and its color temperature macro can be selected.

.TO SET UP DIMMER CURVE AND LED REFRESH FREQUENCY

A projector has 5 dimmer curves: gamma 2.0, gamma 2.2, gamma 2.4 and gamma 2.6 and linear curve . It has 8 LED refresh frequency: LED refresh frequency 1200Hz, LED refresh frequency 2400Hz, LED refresh frequency 4800Hz, LED refresh frequency 10000Hz, LED refresh frequency 12000Hz, LED refresh frequency 15000Hz, LED refresh frequency 20000Hz and LED refresh frequency 25000Hz.

It has fast, medium and slow dimmer speeds.

Its setups are as follows:

1. Hold the ENTER button for more than 3s to unlock the control panel and then enter the menus and select “Option Settings”.
2. Select “Dimmer Settings” and select any mode of gamma curve /LED frequency /dimmer speed for adjustment.

.AUTO-FOCUS SETUP

A projector has auto-focus function for the distance ranges of 5m,10m,15m and 20m respectively. While any of Iris, Fixed gobo wheel and Rotating Gobo Wheel is in use, Auto-Focus channel for specified distance can automatically focus the image. Then use Auto-Focus Calibration channel to fine tune the focused image. Priority sequence: Rotating gobo wheel>Fixed gobo wheel>Iris .

.BRIGHTNESS CALIBRATION

For brightness calibration function, a controller can be used on the projectors in a DMX chain or a projector be done individually. After running for some time, the projectors need to be recalibrated in brightness for conformity with the help of LED brightness calibration channel via controller. The function has the following characteristics:

1. LED brightness calibration channel has 50 levels for adjustment with each level meaning power consumption decreases by 1%.
2. Calibration can be done on projectors in a DMX chain or a single one. After calibration done on a lot of projectors in a DMX chain, it can be done individually also if needed.
3. To avoid erroneous operation, after the fader of a DMX controller is at proper place for LED BRIGHTNESS CALIBRATION channel, the fader for channel of LED BRIGHTNESS CALIBRATION CONFIRMATION channel should be at right DMX value range to save parameters. The calibration is completed after the desired parameters are stored into the projectors.

.CRI MODE

It has HIGH CRI MODE and select it via DMX controller to activate it. The mode ensures high CRI optical effect.

6. OPERATION MENU

1st LEVEL	2nd LEVEL	3rd LEVEL	4th LEVEL	5th LEVEL
DMX Setting	DMX Address	1-481 (short mode) 1-475 (STD mode) 1-462 (Extended mode)		
Reset	Total Reset	Really Reset?	Confirm or Cancel	
	Colour System	Really Reset?	Confirm or Cancel	
	Gobo Reset	Really Reset?	Confirm or Cancel	

	Fo. Zo. Fr.	Really Reset?	Confirm or Cancel	
	Other Reset	Really Reset?	Confirm or Cancel	
Config Settings	DMX Channel	Short 20CH		
		Standard 25CH		
		Extended 29CH		
		View Selected Mode	.Ch.01 Strobe	
	Loss of DMX	Normal time out		
		Hold Last		
	Disp. Config	Display Mode	Off After Delay	
			On Always	
		Display Inv.	Invert OFF	
			Invert ON	
Language Set	English			
	Chinese			
Temp. Unit	Celsius			
	Fahrenheit			
Factory Reset	Restore Reset?	Confirm or Cancel		
Option Set	Invert Set	Zoom Inv.	OFF/ON	
		CYM Inv.	OFF/ON	
		CTO Invert	OFF/ON	
	Dimmer Set	Gamma Curve	2.0/2.2/2.4/2.6/line	
		LED Ref. rate	1200/2400/4800/10000/12000/15000/20000/25000Hz	
		Dimmer speed	Fast/Medium/Slow Speed	
Blade Detect	Detect Disable/ Detect Enable			
Information	View DMX	Channel Value Strobe XXX Dimmer XXX		
	Total Hours	Total Hours=XXX H		
	Temperature	Display XXX		
		Driver 1 XXX		
		Driver 2 XXX		
		Fan Board XXX		
		LED XXX		
	Software Ver.	Display XXX		
		Driver 1 XXX		
		Driver 2 XXX		
		Fan Board XXX		
Electronic SN	XXXXXXXX			
RDM Device Label	XXXXXXXX ANSI E1.20 RDM			
Fan Status	Gobo Fan XXX Lens Fan XXX LED Fan XXX Device Fan XXX			
Service	Manual Ctrl	Strobe XXX Dimmer XXX ... Zoom XXX Zoom fine XXX		
		Factory Test	...	

Operation	DMX Mode	Change Mode?	Confirm/Cancel		
	Master Mode	Preset Memory	Change Mode?	Confirm/Cancel	
		User Memory 1	Change Mode?		
		User Memory 2	Change Mode?		
	Stand-Alone	Preset Memory	Change Mode?		
		User Memory 1	Change Mode?		
		User Memory 2	Change Mode?		
Static Scene	Change Mode?				
User Memory	Edit Memory	Edit Memory 1 / Edit Memory 2	Scene XX (1~16 Scenes)	Paste? Confirm	Strobe XXX Dimmer XXX ... Zoom XXX Zoom fine XXX Fade time XXX Hold time XXX Delay Unit MS/S/MIN Link To Step XXX
		Edit Static Scene		Paste? Confirm	Strobe XXX Dimmer XXX ... Zoom XXX Zoom fine XXX
	Init Memory	Reset Memory 1	Reset Memory?		Input Password123
		Reset Memory 2	Reset Memory?		Input Password123
		Reset Scene	Reset Scene?		Input Password123

7. DMX CHART

Short mode	Standard mode	Extended Mode	FUNCTION	DMX	DESCRIPTION
1	1	1	Strobe	000	Close
				001-127	Pulse strobe speed from slow to fast
				128-255	Strobe from slow to fast
2	2	2	Dimmer	000-255	Linear dimming (0-100%)
	3	3	Dimmer Fine	000-255	Dimmer in 16 bit
3	4	4	CYM Macro	0-7	Open
				8-9	Color Temperature 2700K
				10-11	Color Temperature 3000K
				12-13	Color Temperature 3500K
				14-15	Color Temperature 4000K
				16-17	Color Temperature 4500K
				18-19	Color Temperature 5000K
				20-21	Color Temperature 5700K
				22-23	Color Macro 1
				24-25	Color Macro 2
				26-27	Color Macro 3
				28-29	Color Macro 4
				30-31	Color Macro 5
				32-33	Color Macro 6
				34-35	Color Macro 7
36-37	Color Macro 8				

				38-39	Color Macro 9
				40-41	Color Macro 10
				42-43	Color Macro 11
				44-45	Color Macro 12
				46-47	Color Macro 13
				48-49	Color Macro 14
				50-51	Color Macro 15
				52-53	Color Macro 16
				54-55	Color Macro 17
				56-57	Color Macro 18
				58-59	Color Macro 19
				60-61	Color Macro 20
				62-63	Color Macro 21
				64-65	Color Macro 22
				66-67	Color Macro 23
				68-69	LEE 4 (Medium Bastard Amber)
				70-71	LEE 10 (Medium Yellow)
				72-73	LEE 19 (Fire)
				74-75	LEE 26 (Bright Red)
				76-77	LEE 58 (Lavender)
				78-79	LEE 68 (Sky Blue)
				80-81	LEE 71 (Tokyo Blue)
				82-83	LEE 79 (Just Blue)
				84-85	LEE 88 (Lime Green)
				86-87	LEE 90 (Dark Yellow Green)
				88-89	LEE 100 (Spring Yellow)
				90-91	LEE 101 (Yellow)
				92-93	LEE 102 (Light Amber)
				94-95	LEE 103 (Straw)
				96-97	Lee 104 (Deep Amber)
				98-99	LEE 105 (Orange)
				100-101	LEE 106 (Primary Red)
				102-103	LEE 111 (Dark Pink)
				104-105	LEE 115 (Peacock Blue)
				106-107	LEE 116 (Medium Blue-Green)
				108-109	LEE 117 (Steel Blue)
				110-111	LEE 118 (Light Blue)
				112-113	LEE 119 (Deep Blue)
				114-115	LEE 120 (Dark Blue)
				116-117	LEE 121 (LEE Green)
				118-119	LEE 128 (Bright Pink)
				120-121	LEE 131 (Marine Blue)
				122-123	LEE 132 (Medium Blue)
				124-125	LEE 134 (Golden Amber)

				126-127	LEE 135 (Deep Golden Amber)
				128-129	LEE 136 (Pale Lavender)
				130-131	LEE 137 (Special Lavender)
				132-133	LEE 138 (Pale Green)
				134-135	LEE 139 (Primary Green)
				136-137	LEE 141 (Bright Blue)
				138-139	LEE 147 (Apricot)
				140-141	LEE 148 (Bright Rose)
				142-143	LEE 152 (Pale Gold)
				144-145	LEE 154 (Pale Rose)
				146-147	LEE 157 (Pink)
				148-149	LEE 158 (Deep Orange)
				150-151	LEE 162 (Bastard Amber)
				152-153	LEE 164 (Flame Red)
				154-155	LEE 165 (Daylight Blue)
				156-157	LEE 169 (Lilac Tint)
				158-159	LEE 170 (Deep Lavender)
				160-161	LEE 172 (Lagoon Blue)
				162-163	LEE 179 (Chrome Orange)
				164-165	LEE 180 (Dark Lavender)
				166-167	LEE 181 (Congo Blue)
				168-169	LEE 197 (Alice Blue)
				170-171	LEE 201 (Full C.T. Blue)
				172-173	LEE 202 (Half C.T. Blue)
				174-175	LEE 203 (Quarter C.T. Blue)
				176-177	LEE 204 (Full C.T. Orange)
				178-179	LEE 205 (Half C.T. Orange)
				180-181	LEE 206 (Quarter C.T. Orange)
				182-183	LEE 247 (LEE Minus Green)
				184-185	LEE 248 (Half Minus Green)
				186-187	LEE 281 (Three Quarter C.T. Blue)
				188-189	LEE 285 (Three Quarter C.T. Orange)
				190-191	LEE 352 (Glacier Blue)
				192-193	LEE 353 (Lighter Blue)
				194-195	LEE 715 (Cabana Blue)
				196-197	LEE 778 (Millennium Gold)
				198-199	LEE 793 (Vanity Fair)
				200-255	CYM 混色变换效果速度由慢到快
4	5	5	Cyan	000-255	Cyan (linear 0~100%)
		6	Cyan Fine	000-255	Cyan in 16 Bit
5	6	7	Yellow	000-255	Yellow (linear 0~100%)
		8	Yellow Fine	000-255	Yellow in 16 Bit
6	7	9	Magenta	000-255	Magenta (linear 0~100%)
		10	Magenta Fine	000-255	Magenta in 16 Bit

7	8	11	CTO	000-255	CTO(linear 0~100%)
		12	CTO Fine	000-255	CTO in 16 bit
8	9	13	Color Wheel	000-063	Indexing(0-360degrees)
				064-087	Open
				088-091	Open / (Red)
				092-095	Red
				096-099	Red /Light Green
				100-103	Light Green
				104-107	Light Green / Blue
				108-111	Blue
				112-115	Blue / Cyan
				116-119	Cyan
				120-123	Cyan / Yellow
				124-127	Yellow
				128-131	Yellow /Magenta
				132-135	Magenta
				136-139	Magenta /Orange
				140-143	Orange
				144-147	Orange /Green
				148-151	Green
				152-155	Green /Dark Blue
				156-159	Dark Blue
				160-163	Dark Blue /UV
				164-167	UV
				168-171	UV /Light Yellow
				172-175	Light Yellow
176-179	Light Yellow /Dark Yellow				
180-183	Dark Yellow				
184-187	Dark Yellow/Open				
188-191	Open				
192-223	Rotation ,Clockwise from slow to fast				
224-255	Rotation, Anti-clockwise from fast to slow				
	10	14	Color Wheel Fine	0000-255	Color Wheel in 16 Bit
9	11	15	Fixed Gobo Wheel	000-015	White
				016-031	Gobo1
				032-047	Gobo2
				048-063	Gobo3
				064-079	Gobo4
				080-095	Gobo5
				096-111	Gobo6
				112-127	Gobo7
				128-156	Clockwise rotation from slow to fast
				157-185	Anti Clockwise rotation from slow to fast
				186-195	Shake effect 1 from slow to fast

				196-205	Shake effect 2 from slow to fast
				206-215	Shake effect 3 from slow to fast
				216-225	Shake effect 4 from slow to fast
				226-235	Shake effect 5 from slow to fast
				236-245	Shake effect 6 from slow to fast
				246-255	Shake effect 7 from slow to fast
10	12	16	Rotating Gobo Wheel	000-015	White
				016-031	Gobo1
				032-047	Gobo 2
				048-063	Gobo 3
				064-079	Gobo 4
				080-095	Gobo 5
				096-111	Gobo 6
				112-127	Gobo 7
				128-156	Rotation (clockwise From slow to Fast)
				157-185	Reverse Rotation (anti-clockwise From slow to Fast)
				186-195	Shake of Gobo 1 from slow to fast
				196-205	Shake of Gobo 2 from slow to fast
				206-215	Shake of Gobo 3 from slow to fast
				216-225	Shake of Gobo 4 from slow to fast
				226-235	Shake of Gobo 5 from slow to fast
236-245	Shake of Gobo 6 from slow to fast				
246-255	Shake of Gobo 7 from slow to fast				
11	13	17	Gobo Rotation	000-128	Gobo Indexing(0~360 degrees)
				129-188	Rotation (Clockwise From slow to Fast)
				189-195	Stop
				196-255	Rotation (Anti-Clockwise From slow to Fast)
	14	18	Gobo Rotation Fine	000-255	Gobo Rotation in 16 Bit
12	15	19	Prism	000-016	Open
				128-255	Prism
13	16	20	Prism Rotation	000-127	Prism Indexing
				128	Stop
				129-191	Rotation(Clockwise from slow to fast)
				192	Stop
				193-255	Rotation(Anti- Clockwise from slow to fast)
14	17	21	Frost	000-09	No
				010-255	Frost In
15	18	22	Effect Wheel	000-010	No
				011-020	Effect wheel in
				21-255	Effect wheel rotation from slow to fast
16	19	23	Focus	000-255	Linear Focus
	20	24	Focus Fine	000-255	Focus in 16 bit precision

17	21	25	Zoom	000-255	Linear Zoom
	22	26	Zoom Fine	000-255	Zoom in 16 bit precision
18	23	27	Autofocus		While channels for Iris, Rotating Gobo Wheel and Rotating Gobo Wheel are in use, the projector has automatic focus function at some distance. Use "Autofocus Calibrations" channel (36/41/56) to focus the image. Priority: Rotating Gobo Wheel > Fixed Gobo Wheel > Iris > Framing module
					The following functions will disable the focus channel (32/37/50) is disabled.
				0-19	Autofocus Off
				20-39	Autofocus for 5M
				40-59	Autofocus for 10M
19	24	28	Focus calibrations	0-127	Focus calibrations up
				128-255	Focus calibrations down
20	25	29	Control	000-019	Reserved
				Keep in the DMX range for more than 5S to activate the following functions. If power-off, the following are invalid.	
				020-024	Graphic Display On
				025-029	Graphic Display Off
				030-046	Reserved
				047-048	Fan standard mode
				049-050	Fan theater mode
				051-052	Fast dimmer
				053-054	Medium dimmer
				055-056	Slow dimmer
				057-058	Gamma curve 2.0
				059-060	Gamma curve 2.2
				061-062	Gamma curve 2.4
				063-064	Gamma curve 2.6
				065-066	Line
				067-068	LED refresh rate 1200Hz
				069-070	LED refresh rate 2400Hz
				071-072	LED refresh rate 4800Hz
				073-074	LED refresh rate 10000Hz
				075-076	LED refresh rate 12000Hz
077-078	LED refresh rate 15000Hz				
079-080	LED refresh rate 20000Hz				
081-082	LED refresh rate 25000Hz				
083-089	Reserved				
090-094	Pan & Tilt Speed Mode				
095-099	Pan & Tilt Time Mode				

				100-139	Reserved
				140-149	Pan & Tilt Reset
				150-159	Color System Reset
				160-169	Gobo Wheel Reset
				170-179	Reserved
				180-189	Zoom/Frost/Focus/Prism Reset
				190-199	Reserved
				200-209	Total Reset
				210-255	Reserved

8. TECHNICAL DATA

The product is with a separate power supply unit.

1) The underwater head

Input voltage: DC 48V

Ingress protection: IP68 (for underwater running)

Electric shock protection class: III class lighting fixture(Safe low voltage/SELV, no electric shock)

Standards: as per IEC 60598-1 and GB/T 50034-2024, DC 60V and lower is safe low voltage/SELV. And DC 48V is safe voltage and without electric shock under normal operation.

2) Power supply control box

Input voltages : 100V~240V AC, 50/60Hz

Input Power : 550W @ 220V

Power factor : PF > 0.95

Max. Current: 2.5 A @ 220V

Output voltage: DC 48V

Output current: 11.5A@48V/DC

Ingress protection: IP66 (waterproof for outdoor application, not for underwater running)

LIGHT SOURCE SPECIFICATIONS(Yellow)

Power consumption : 350W, White LED module

Color Temperature : 9000K

Manufacturers Rated Lamp Life : more than 20000hrs

CRI : Ra ≥ 70

COLORS

CMY color mixing system with macros

1 Color wheel: 12 colors + Open,

Half color, bi-directional rainbow effect at variable speeds,
Stepping/linear color changing

CTO

Linear CTO system(0-100%, 1800K - 9000K)

FIXED GOBO WHEEL

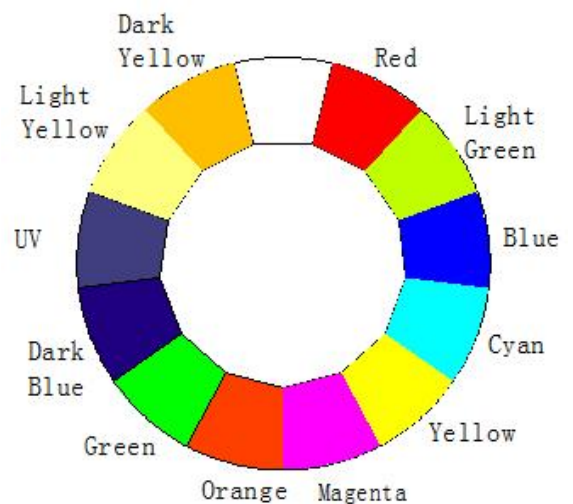
1 Fixed gobo wheel: 7 gobos + Animation Effect + Open

Bi-directionally rotatable, and shakable at variable speeds








ROTATING GOBO WHEEL

1 Rotating gobo wheel: 7 Rotating Gobos + Open

Bi-directionally rotatable, and shakable at variable speeds



Gobo Replaceable, Gobo diameter: $\Phi 22.5\text{mm}$,Gobo image diameter: $\Phi 15\text{mm}$

gobo1	gobo2	gobo3	gobo4	gobo5
				
gobo6	gobo7			
				

EFFECT WHEEL

Animation effects, bi-directional rotation at variable speeds

PRISM

1pc, 3-facet circular prism, bi-directional rotation at variable speeds with indexing function

FROST

1 frost filter ,0-100% linear

BEAM ANGLE

Beam and Spot modes: 4° - 40° , linear

Wash mode : 5° - 45° , linear

(with 16 bit control)

FOCUS

DMX linear with auto focus function

ZOOM

Linear zoom

DIMMER

Linear electronic dimmer 0-100% with 16 bit control

3 dimmer speeds

5 dimmer curves

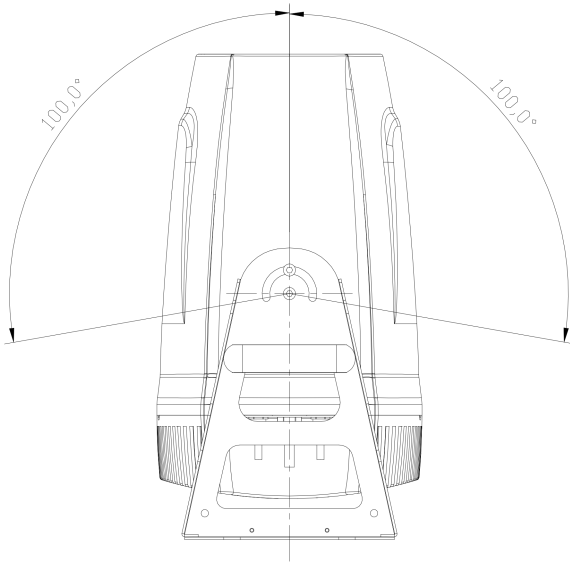
Dimmer frequency(1.2K-25K) good for 4K high speed video camera

STROBE

Electronic strobe 0.3~25 Hz, optional pulse, synchronized or non-synchronized strobe at slow, medium and fast speeds

HEAD MOVEMENT

Tilt: $\pm 100^{\circ}$



ADVANCED MACROS

Color temperature macros: optional 2700K,3000K,3500K,4000K,4500K,5000K,5700K

Standard color macros: 89 color options based on standard color chart.

BRIGHTNESS CALIBRATION FUNCTION

With brightness calibration function to calibrate initial brightness for a single fixture or multiple ones and store brightness values into the fixtures

CRI MODE

Running at high CRI mode via DMX channel to ensure high CRI optical effect.

CONTROL

International standard DMX512 signal and RDM function

20channels in short mode, 25channels in standard mode,29channel in extended mode

Master/Slave mode

Standalone mode

Master Mode

CONTROL INTERFACE

DMX512 ports (3-pin, optional 5-pin)

OTHER FUNCTIONS

Modular construction for easy maintenance,

DMX channel voltages monitoring

Firmware upgrade via DMX cable

HOUSING AND INGRESS PROTECTION

The housing of the head: ABS or stainless steel, IP68 , for landscape, entertainment ,cultural tourism and other underwater applications.

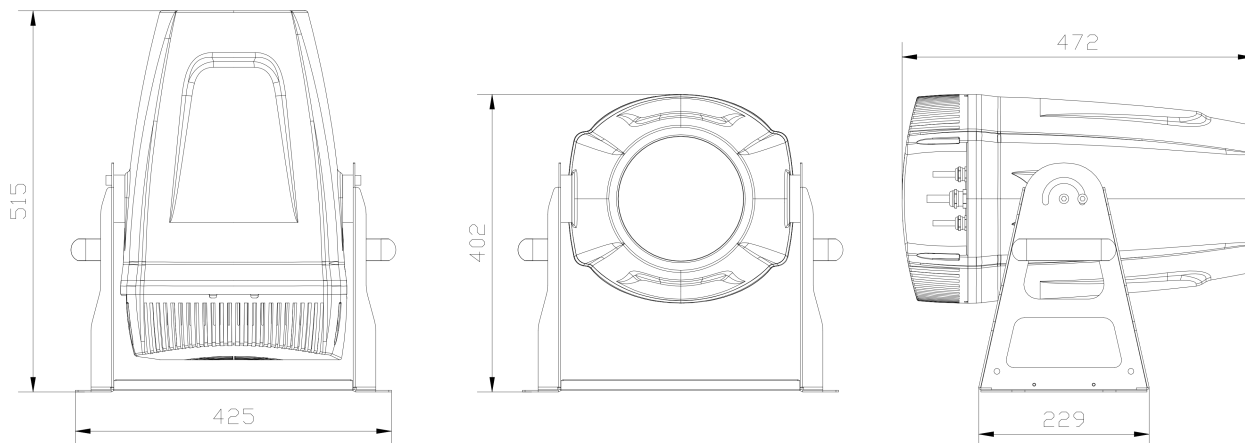
The material for power supply control box: Aluminum, IP66, installed in safe areas, forbidden for underwater applications

AMBIENT TEMPERATURE

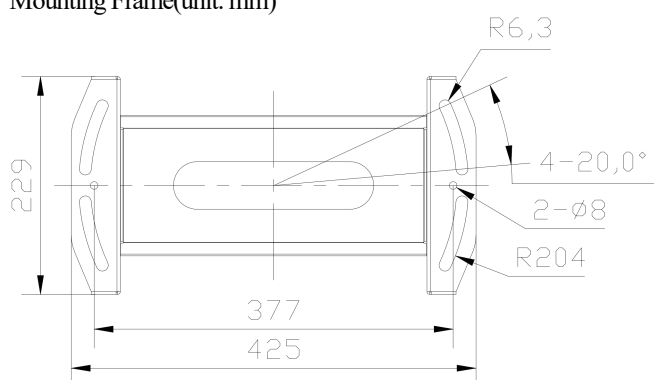
The head : the depth under water $\leq 5\text{m}$, the temperature of water $0^{\circ}\text{C}\sim 40^{\circ}\text{C}$

The power supply control box: $-20^{\circ}\text{C}\sim 40^{\circ}\text{C}$

SIZES(unit: mm)



Mounting Frame(unit: mm)



WEIGHT

Net weight of the head 19.5 KG

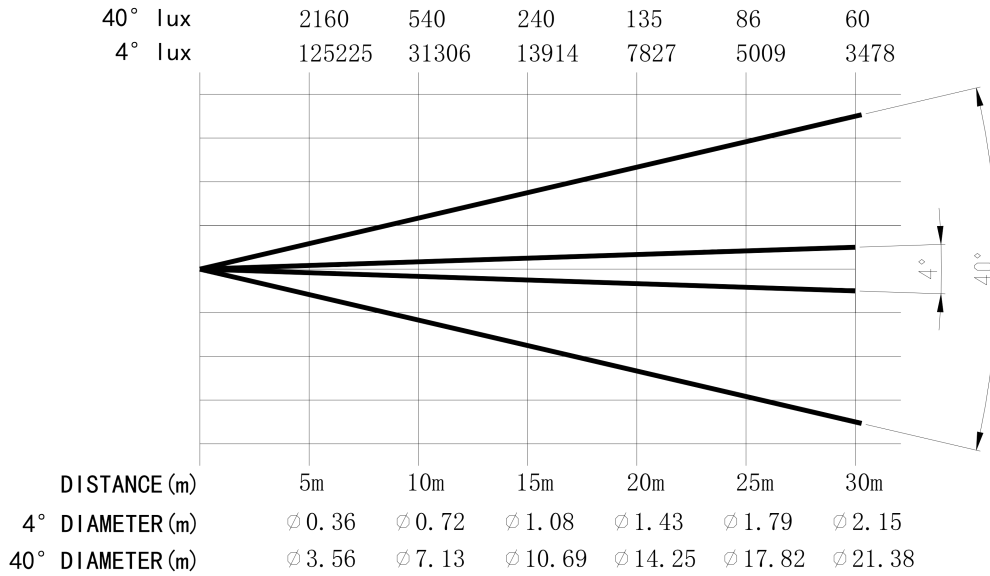
Net weight of the power supply control box 7KG

Gross weight in the carton: 29.5KG(head+ power supply control box)

PHOTOMETRIC

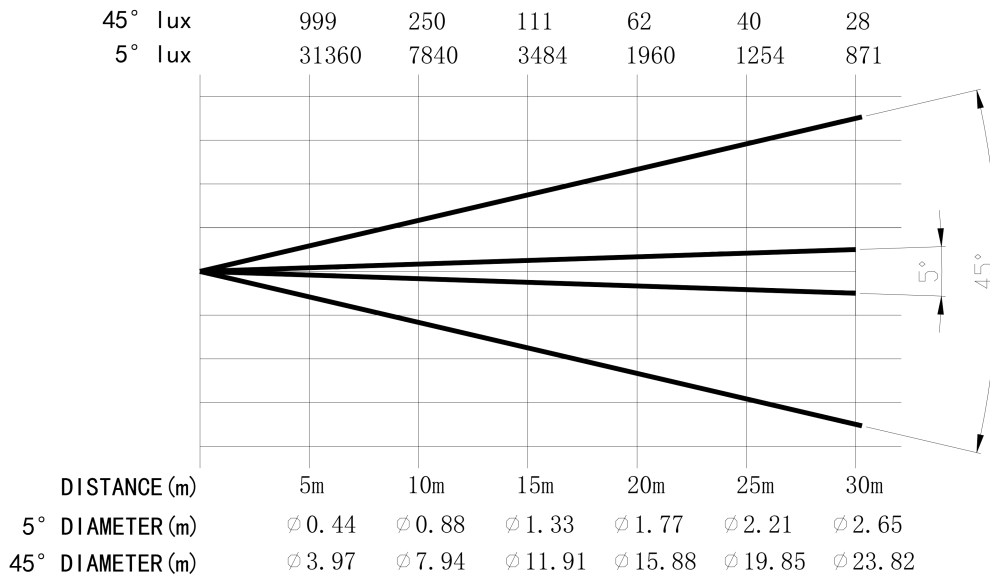
Beam/Spot mode

Beam & Spot mode



Wash mode

Wash mode



9. COMPONENT ORDER CODES

NAME	CODE NUMBER	QTY	REMARK
Switching power supply	192010240	1	
Light source	150020344	1	
Power supply fan	030060119	2	
Gobo fan	030060117	1	
Zoom motor	030040154A	1	
Focus motor	030040154A	1	
Fix gobo wheel motor	030040073A	1	
Rotating gobo wheel motor	030040221C	1	
Gobo rotation motor	030040224C	1	
Frost motor	030040073D	1	
Color wheel motor	0300402298	1	
Prism in/out motor	030040221A	1	
Prism rotation motor	030040289	1	

PR LIGHTING LTD.

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PR lighting will try its best to offer accurate and overall information about a product's technical data. Any changes won't be notified if necessary. Patented Products.
Counterfeiting Will be Prosecuted!

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