MOVING HEAD

EXPOLITE
DRAGON BEAM 150

ENDLESS TILT

DUAL OVERLAPPING PRISM

LINEAR FROST

MANUAL

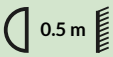
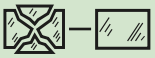
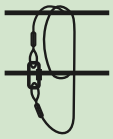
TABLE OF CONTENTS

All specifications are subject to change without notice.

THANK YOU FOR PURCHASING OUR PRODUCTS

Every unit has been thoroughly tested and has been shipped in perfect operating condition. Carefully check the outer and inner packaging for damage that may have occurred during shipping. If the carton appears to be damaged, carefully inspect your fixture for any damage and be sure all accessories necessary to operate the unit have arrived intact. In case damage has been found or parts are missing, please contact the distributor or your dealer for further instructions. Do not return this unit to your dealer without first contacting them.

1. SAFETY INFORMATION

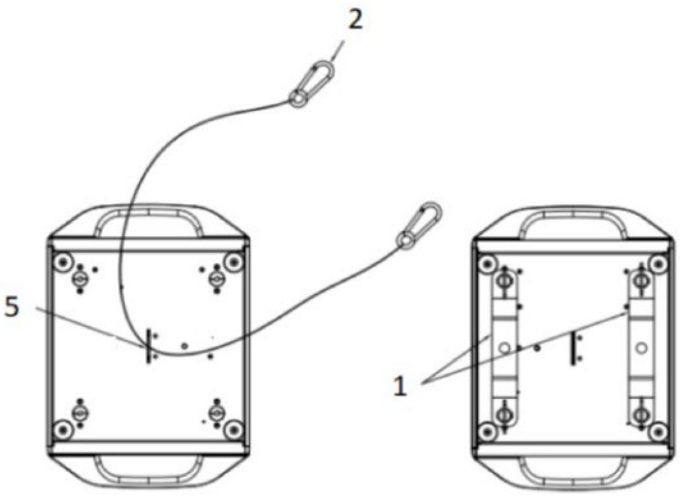
	Before operating this unit, please carefully read this manual and keep for usage in the future. It is necessary to respect the following rules.
	Disposal of the device after its life cycle can damage the environment. Take it to a recycling company or return it to the authorised dealer.
	The products referred to in this manual conform to the guidelines of the European Community and are therefore marked with the CE logo.
	Keep this device away from children and unauthorised users. The dealer is not liable for damage as a result of ignoring the information in this manual and incorrect operation.
	Before operating this unit, please make sure the housing is in good condition and ensure pan and tilt can rotate in full range.
	Ensure that a minimum distance of 0.5 m is maintained between the fixture and any flammable material
	The device can only function with 100-240v voltage, 50 / 60Hz power. Do not connect to any other power supply. Disconnect the device from the power supply before opening it or before maintenance.
IP20	For indoor events.
	Never look directly into the projecting lens when the fixture is switched on. The light can cause epileptic seizures in light-sensitive people or people with epilepsy. Extreme caution and compliance with these safety instructions are required, especially with beam effects.
	Do not place or install the device on a surface that is exposed to vibration or any movement.
-15°C +45°C	The device should operate in temperature range -15 °C and + 45 °C. Do not use the device if the temperature exceeds this range.
	The lens shield must be replaced if it is broken. Never use the device if the shield is not fully closed.
	Safety I class device must be earthed.
	When the fixture is mounted overhead, the safety rope must be attached to the correct mounting location on the bottom of the device.
	Please note that damage caused by manual changes to the device is not covered by the warranty.
	If possible, recycle all packaging material.

2. INSTALLATION

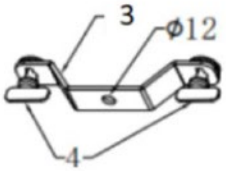
A fixture can be placed on the stage floor directly or mounted on a truss at any direction without impacting its performance. Please use a safety cord, which can support 10 times the weight of the fixture, while mounting it on the truss. The safety cord should be used with magazine with a lock. Just as the figures below, please run the safety cord through the holes at the bottom of the base and around the truss.

Rigging

1. Use M12 bolt to fix the clamp (1) into the omega holder (3), run the bolt through the holder's holes.
2. Push 2 quick-lock fasteners (4) into holes at the bottom of the base, fix them and tighten them clockwise.
3. Run safety cord (2) through holes at the bottom of the base.



1. Clamps
2. Safety wire
3. Omega holder
4. Quick-lock fastener
5. Attachment point

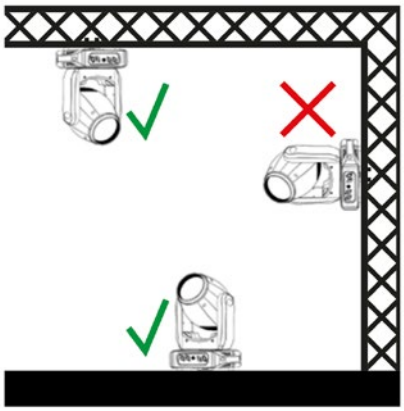


Warning:
- The fixture MUST be lifted or carried by the HANDLES instead of clamps.
- For safety the safety cord should afford 10 times the fixture's weight.

Power connection

Connect the power cord as follows:
- L (live) = brown
- E (earth) = yellow/green
- N (neutral) = blue

Important for placement!



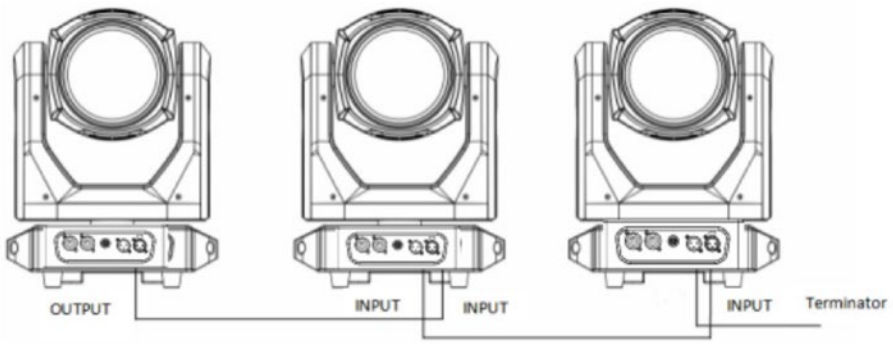
Warning:
- The earth wire(yellow/green) must be connected to the ground. Electrical connection must be in accordance with the standards concerned.
- If any questions about the electrical installation, do not continue but consult a qualified electrician.

DMX control connection

Connection between controller and fixture and between one fixture 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 fixture is via cannon 3 pin (which are included with the fixture) or 3 pin XLR plugs and sockets.

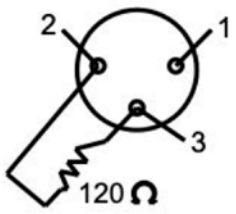
Note: Care should be taken to ensure that none of the pins touch the metallic body of the plug or each other.

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.



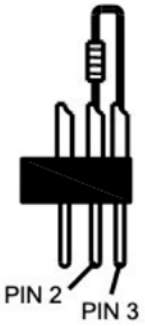
DMX terminator

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 fixture in the chain. The connections are illustrated below.



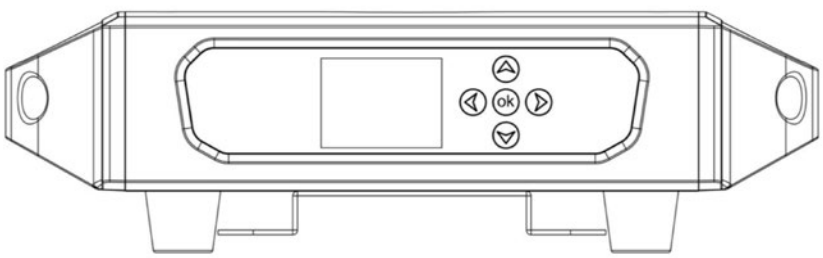
DMX Terminator Connection

Connect a 120 Ω (OHM) resistor across pins 2 and 3 in an XLR plug and insert into the DMX out socket on the last unit in the chain.



3. SETUP AND CONFIGURATION

Front panel operation



DMX Address:
Setup the DMX address.

System Settings:
1. Display reverse direction: The screen can ben flipped if required.
2. Language setting: Set the system language, switch between Chinese and English.
3. Channel mode: Set the channel mode, the number of menu options indicates the number of channels.
4. Dimmer curve: Select the dimmer curve (LED only).
5. Running mode:
   The menu options are described as follows (Note: Walk mode options may vary according to fixture model):
   - DMX: Operation is controlled by the DMX512 console.
   - Self-walk (factory test): Run the program set by the manufacturer, which is mainly used for the factory test.
   - Voice control: running the program set by the manufacturer is controlled by sound.
6. Electronic light lighting: the DMX512 console can control the light lighting.
7. Horizontal reverse: select "Open", reverse the rotation direction of the Pan motor, select "Close", and press the rotation direction at the factory.
8. Vertical reverse: select Open, reverse the rotation direction of the Tilt motor, select Close, and press the rotation direction at the factory.
9. XY speed: the three XY-axis running speeds.
10. Optical coupling detection: select "Open", XY axis zero start position, select "off", XY axis can be manually moved.

Information services:
1. **Total time:** Lamp running time.
2. **Pearl time:** Displays the use time of the bead.
3. **Software:** To display the version information of the drive board.

Channel control: Manually set the value of the channel:
- **Channel 1:** Set the DMX value for channel 1
- **Channel 2:** Set the DMX value for channel 2
- **Channel 3:** Set the DMX value for channel 3

Operating status: Display error message and fan speed

Auxiliary tool: Factory debugging function, need password verification to enter

Advanced Settings: Lamp hardware information and program real-time detection, need password verification to enter

Channel level: The current DMX channel value

Reduction: Reset the motor

Description of the LCD screen homepage:

<table>
<tr><td>1</td><td>4</td></tr>
<tr><td rowspan="2">2</td><td>5</td></tr>
<tr><td>6</td></tr>
<tr><td>3</td><td>7</td></tr>
</table>

1. Lamp model
2. Lamps type
3. DMX channel pattern
4. DMX state
5. Error message prompt
6. Running mode
7. The lamp bead state

4. OPERATION MENU

1. Address setting 2. Setting 3. Info 4. Manual 5. Status 6. DMX-Level 7. Reset 8. Exit Menu

Level 1	Level 2	Level 3	Level 4	Content
ADDRESS SETTING				1-512
SETTING	Dis_Reve	Natu/Rev1		
	Language	Eng/Chin		
	DMX Mode	14CH/16CH		
	RunMode	DMX/Musc/Auto		
	DimCurve	Squa/Pres/SCur/Line		
	Shortcut	Open/Off		
	X reverse	Off/Open		
	Y reverse	Off/Open		
	XY Speed	Fast/Norm/Slow		
	XY Back	Open/Off		
	Return	Δ		
INFO	All Time	0-9999		Information about lamps and lanterns
	Lamp Time	0-9999		
	Limit Time	0-9999		
	TFT Veri	VOO*		
	Motr Veri	VOO*		
	Eff Veri	VOO*		
	Return	Δ		
MANUAL	Pan	0-255		Manual control of the lamp access channel
	PanFine	0-255		
	Tilt	0-255		
	TiltFine	0-255		
	T-nonpolar	0-255		
	XY SP	0-255		
	Strobe	0-255		
	Dimmer	0-255		
	Color	0-255		
	StaticGB	0-255		
	Prism	0-255		
	PrismRot1	0-255		
	PrismRot2	0-255		
	Frost	0-255		
	Focus	0-255		
	Rese	0-255		
	Return	Δ		
STATUS	XY DMX	Natu/Err		Current status of lamps and lanterns
	Effect DMX	Natu/Err		
	Focus Hall	Natu/Err		
	Color Hall	Natu/Err		
	Gobo Hall	Natu/Err		

Level 1	Level 2	Level 3	Level 4	Content
ADDRESS SETTING				1-512
STATUS	Y Hall	Natu/Err		Current status of lamps and lanterns
	X FB	Natu/Err		
	Y FB	Natu/Err		
	NTC Temp	Natu/Err		
	Return	Δ		
TOOLS	CheckGod	***		Information about lamps and lanterns
	AD SET	***		
	AllTime	Zero/Exec		
	LampTime	Zero/Exec		
	Default	Defa/Out/Save		
	X	0-255		
	Y	0-255		
	Focus	0-255		
	Prism 1	0-255		
	Prism 2	0-255		
	Prism Rot1	0-255		
	Frost	0-255		
	Gobo	0-255		
	Color	0-255		
	Prism1Core	0-255		
	Prism2Core	0-255		
	FrostCore	0-255		
	Return	Δ		
DMX LEVEL	Pan	0-255		Current DMX channel value
	PanFine	0-255		
	Tilt	0-255		
	TiltFine	0-255		
	T-nonpolar	0-255		
	XY SP	0-255		
	Strobe	0-255		
	Dimmer	0-255		
	Color	0-255		
	StaticGB	0-255		
	Prism	0-255		
	PrismRot1	0-255		
	PrismRot2	0-255		
	Frost	0-255		
	Focus	0-255		
	Rese	0-255		
	Return	Δ		
	ALL Reset	Annu/Exec		Manual reset
	XY Reset	Annu/Exec		
	Eff Reset	Annu/Exec		
	Return	Δ		
Exit Menu				

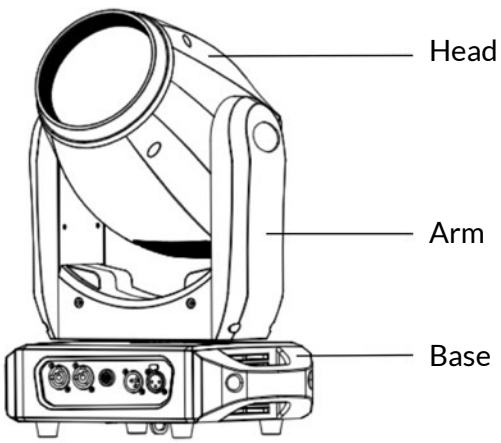
5. DMX PROTOCOL

DMX Channel		Value	Function
SHORT MODE (14CH)	Standard Mode (16CH)		
1	1		Pan
		0-255	0-100%
	2		Pan Fine
		0-255	0-100%
2	3		Tilt
		0-255	0-100%
	4		Tilt Fine
		0-255	0-100%
3	5		Vertical non-polar rotation
		0-55	Vertical-normal linear control
		56-155	Vertical rotation rotation rotation: slow-> fast
		156-255	Vertical reverse when the rotation is slow-> fast
4	6		Pan and Tilt speed
		0-255	Fast ->Slow
5	7		Strobe
		0-3	Close
		4-103	Strobe: Slow->Fast
		104-107	Open
		108-207	Pulse strobe: Slow->Fast
		208-212	Open
		213-225	Strobe at random: slow speed
		226-238	Strobe at random: medium speed
		239-251	Strobe at random: fast speed
		252-255	Open
6	8		Dimmer
		0-255	0-100%
7	9		Colors
		0-4	Open
		5-8	Open+Color1
		9-12	Color1
		13-17	Color1+Color2
		18-21	Color2
		22-25	Color2+Color3
		26-29	Color3
		30-34	Color3+Color4
		35-38	Color4
		39-42	Color4+Color5
		43-46	Color5
		47-51	Color5+Color6
		52-55	Color6
		56-59	Color6+Color7
		60-63	Color7
		64-68	Color7+Color8

DMX Channel		Value	Function
SHORT MODE (14CH)	Standard Mode (16CH)		
7	9		Colors
		69-72	Color8
		73-76	Color8+Color9
		77-81	Color9
		82-85	Color9+Color10
		86-89	Color10
		90-93	Color10+Color11
		94-98	Color11
		99-102	Color11+Color12
		103-106	Color12
		107-110	Color12+Color13
		111-115	Color13
		116-119	Color13+Color14
		120-123	Color14
		124-127	Color14+Open
		128-149	Open
		150-202	Clockwise rotation: Fast->Slow
		203-255	Anti-clockwise rotation: Slow->Fast
8	10		Gobo
		0-4	Open
		5-7	Gobo1
		8-10	Gobo2
		11-13	Gobo3
		14-16	Gobo4
		17-19	Gobo5
		20-22	Gobo6
		23-25	Gobo7
		26-28	Gobo8
		29-31	Gobo9
		32-34	Gobo10
		35-37	Gobo11
		38-40	Gobo12
		41-43	Gobo13
		44-54	Open
		55-62	Shake from slow to fast: Gobo 1
		63-70	Shake from slow to fast: Gobo 2
		71-78	Shake from slow to fast: Gobo 3
		79-86	Shake from slow to fast: Gobo 4
		87-94	Shake from slow to fast: Gobo 5
		95-102	Shake from slow to fast: Gobo 6
		103-110	Shake from slow to fast: Gobo 7
		111-118	Shake from slow to fast: Gobo 8
		119-126	Shake from slow to fast: Gobo 9
		127-134	Shake from slow to fast: Gobo 10
		135-142	Shake from slow to fast: Gobo 11

DMX Channel		Value	Function
SHORT MODE (14CH)	Standard Mode (16CH)		
8	10		Gobo
		143-150	Shake from slow to fast: Gobo 12
		151-158	Shake from slow to fast: Gobo 13
		159-201	Open
		202-227	Clockwise rotation: Fast->Slow
		228-229	Stop
		230-255	Anti-clockwise rotation: Slow->Fast
9	11		Prism1
		0-63	Stop
		64-255	Prism 1 in
10	12		Prism 2
		0-63	Stop
		64-255	Prism 2 in
11	13		Prism positioning and rotation
		0-127	Prism positioning
		128-190	Anti-clockwise rotation: Fast->Slow
		191-192	Stop
		193-255	Clockwise rotation: slow->fast
12	14		Frost
		0-63	Stop
		64-255	0-100%
13	15		Focus
		0-255	0-100%
14	16		Function
			To achieve the following effect, push the DMX value to the appropriate position and rest for at least 4 seconds
		0-210	No
		211-225	Effect reset
		226-240	Pan/Tilt reset
		241-255	All reset

6. APPEARANCE



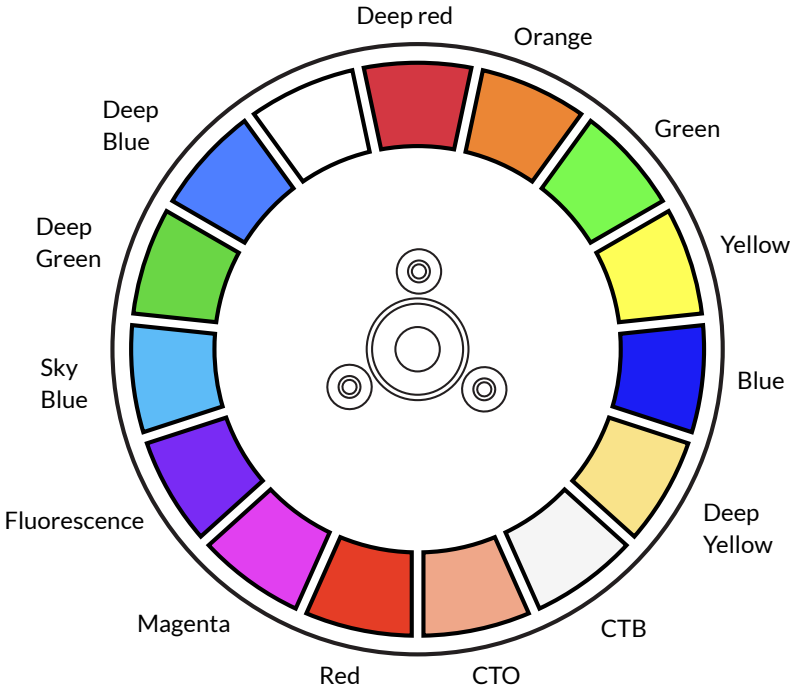
7. TECHNICAL DATA

Electric Parameters
Input Voltage: 100 V ~ 240 V AC, 50/60 Hz
Input Power: 200 W @ 240 V
Power Factor: PF > 0,90

Specifications of the light source
Light Source: 150 W whiteLED-Engine
Color Temperature: 7800 K ± 200 K
Rated Life: 20.000 hours

Color
1 white light + 14 colors
- Variable speed bidirectional rainbow effect
- Step/linear conversion color optional

Fixed Gobo Wheel
- 13 Gobos + open
- Gobo diameter: 8 mm
- Thickness: 0,8 mm



Prism/Frost
- 1 8-facet prism and 1 8+16+24-facet prism
- Bi-directional rotation from slow to fast
- Both can be overlapped

Control
- International Standard: DMX-512-Protocol
- 3-pin interface
- 13 channels in short mode and 16 channels in standard mode channels in standard mode

Focus
- DMX linear Focus

Housing
- High temperature and anti-uv abs and aluminum

Dimmer/Strobe
- Strobe at variable speeds (15fps at maximum)
- 0-100% linear dimmer

IP Rating
- IP20

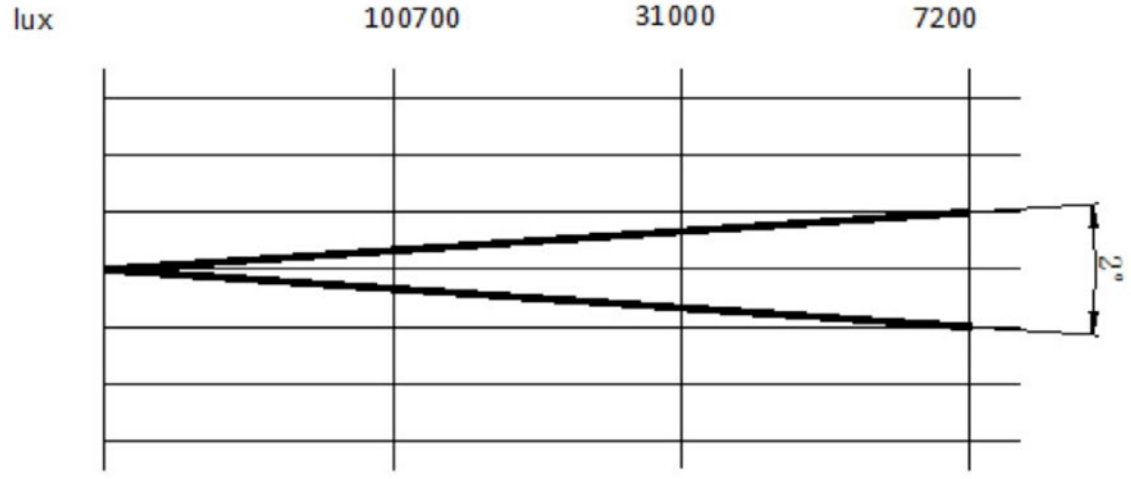
Head Movement
- Pan 540°
- Tilt 270° vertical direction to the infinite rotation

Net weight
- 10,2 kg

Beam Angle
- 2°

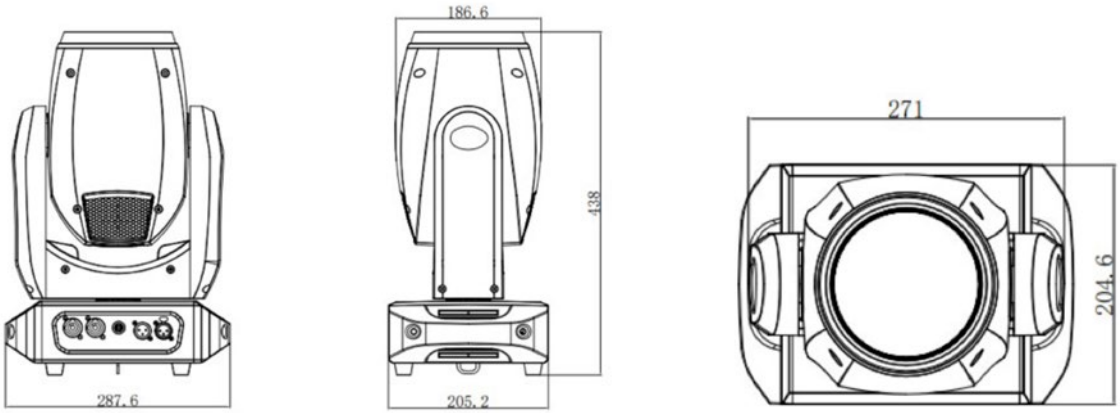
Operation Temperature
- Ambient temperature at maximum: 45°C

Light Output



Distance (m)	5M	10M	20M
Diameter (m)	Ø 0.17	Ø 0.35	Ø 0.7

Dimensions



8. TROUBLE SHOOTING

Problem	Action
The fixture doesn't switch on	Check the fuse on the power socket
	Check the lamp
The lamp is on but the fixture doesn't respond to the controller	Make sure that the fixture's start address is right
	Replace or repair the XLR signal cable
The figure functions intermittently	Make sure the fan is working well or fans and their shields are not blocked
Beam appears dim, low in brightness	Make sure the LED is within its lifespan
	Remove dust or grease from the lenses
The project image appears to have a halo	Carefully clean the LED, optical lenses and other components
Heavily defective beam	Check if lenses are in good condition (not cracked)
	Clean dust or grease on the lens

Error Messages

Name	Type	Correction
Pan	Optical sensor error: Pan	Check if wiring, optical sensor and motors are normal
Tilt	Optical sensor error: Tilt	Check if wiring, optical sensor and motors are normal
Pan & Tilt driver board	Communication error: module1	Check if wiring, hall sensor and motors are normal
Motor driver board	Communication error: module2	Check if wiring, hall sensor and motors are normal
Focus	Hall error: Focus	Check if wiring, hall sensor and motors are normal
Color Wheel	Hall error: Color wheel	Check if wiring, hall sensor and motors are normal
Fixed Gobo Wheel	Hall error: Fixed gobo wheel	Check if wiring, hall sensor and motors are normal

10. NOTES

EXPOLITE

DRAGON BEAM 150