



150W LED BSW 3in1 Moving Head



Use Manual

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Chapter 1 Precautions and Installation

1. Maintenance

- This lamp should be kept dry and should not be operated in wet conditions.
- Intermittent use can effectively extend the life of the lamp.
- For good ventilation and lighting, pay attention to cleaning the fan and fan network and lens frequently.
- Do not use organic solvents such as alcohol to test the lamp housing to avoid damage.

1. statement

This product in the factory, the performance is intact, packaging is complete. All users shall strictly observe the warnings and operating instructions stated above, and any damage caused by misuse is not within the company's warranty and the failures and problems caused by the neglect of the operating manual are not within the scope of the dealer's responsibility.

This manual is subject to technical changes without notice.

2. Technical parameters

Voltage: AC90-240V,50/60Hz

Light source: 150W high-brightness imported chip LED light source

Power: 280W

Life: 80000h

Spot angle: 8-17 degrees

Work scene: Suitable for any safe indoor work environment

Display mode: LCD display, lamp temperature display, display in Both English and Chinese, can be reversed display

Operating mode :D MX512 mode, walk-through mode, voice mode and master mode

DMX channel mode: 18CH

Color: 7 colors , white light, rainbow effect, half-color color change effect

Fixed pattern disk: 10 patterns and white light, pattern jitter, pattern flow effect

Rotating pattern disk: 6 patterns with white light, pattern jitter, pattern flow effect

Prism disc: 3 Prism, prism forward and reverse rotation effect

Atomization effect, focus effect

X-axis: 540 degrees (16-bit) electrical correction

Y-axis: 270 degrees (16-bit) electrical correction

Automatic XY error correction, rich built-in program

Dimming rating: 0-100% Perfect linear dimming system

Strobe: Synchronized pulse strobe, random pulse strobe

Waterproof rating: IP20, indoor use

High temperature flame retardant engineering plastic housing with aluminum base

Lamp body size: 275 x 200 x 475mm

Package size: 475 x 365 x 360mm

Net weight: 9kg

Gross weight: 12kg

1. Product notes

- To ensure the life of the product, do not place the appliance in a damp or leaky place, let alone work in an environment where the temperature exceeds 60 degrees
- Do not place the appliance in a loose or vibration-prone place.
- To avoid the risk of electric shock, this product is requested to be repaired by a professional.
- When the bulb is in use, the supply voltage should not change by more than 10% of the $\pm$, the voltage is too high, will shorten the life of the bulb, the voltage is too low, the light color of the bulb will be affected.
- After a power outage, it takes 20 minutes for the luminaire to cool down sufficiently before it can be powered on again.
- To ensure proper use of this product, please read this instruction carefully. Signal line connection(DMX).

Use specifications RS-485 cables: shielded, 120ohm characteristic impedance, 22-24 AWG, low capacity resistance. Do not use microphone cables or cables with different specified characteristics. Terminal connections must use a 3 or 5-pin XLR male/female connector. (minimum 1 / 4 W).

Important: Wires cannot be in contact with each other or with metal housings.

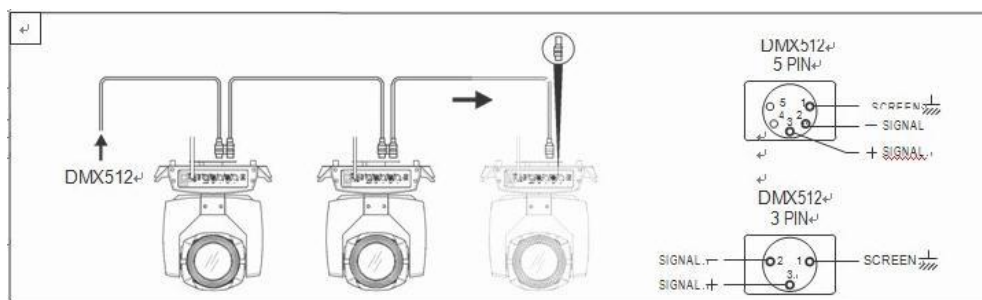


Figure 1 DMX signal line connection diagram

1. Lamp installation

Lamps can be placed horizontally, reclining and hanging upside down. Be sure to pay attention to the installation method when hanging obliquely and upside down.

As shown in Figure 2 before positioning the luminaires, to ensure the stability of the installation site, in reverse hanging installation, it is necessary to ensure that the lamp does not fall off the support frame, the safety rope through the support frame and the lamp handle for auxiliary hanging to ensure safety, Prevent lamps from falling and sliding.

Lamps in the installation and commissioning, pedestrians are not allowed to pass below, regularly check the safety rope for wear, hook screws appear loose.

If the suspension installation is not stable, resulting in the fall of the lamp and all the consequences, we do not assume any responsibility.

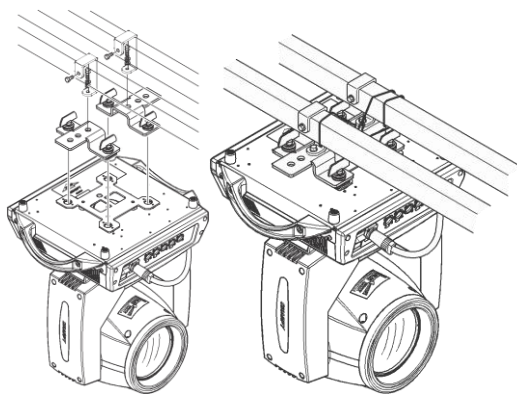


Figure 2 Flip-up luminaire diagram

Chapter 1 Panel Operation

1. Overview

The lamp surface schematic Figure 33, with the title above showing the name of the luminaire, the status bar below, showing the signal of the current luminaire, the status of the bulb, the fault ("E RR" when fault information is not viewed, otherwise "NOR" is displayed), etc.

This luminaire supports the DMX/RDM protocol, and when the luminaire is searched by the RDM host, the panel will appear with the three letters "RDM" indicating that the luminaire is properly enumerated.

Displays and operates like an "Android operating system" that can be done by clicking on a counterpart with a fingertip or blunt object.

Note: Do not use sharp or sharp objects to click on the display to prevent damage.

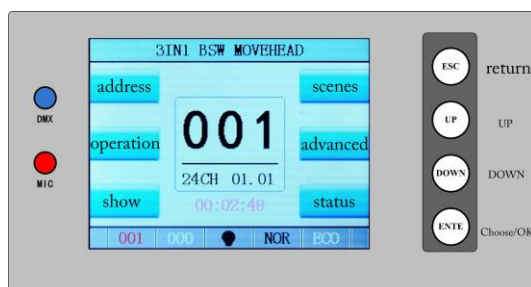


Figure 3 shows a diagram of the panel

1. Operate

1. Operate the luminaire with intuitive touch or assisted input (touch-enabled products)

- The left area is the TFT display area and the touch area, and by tapping the panel content with your finger or blunt hardware, you can complete things like setting parameters or viewing status.
- The area on the right is a secondary input, which you can use to select the items you need to set up or view if you don't use TFT's own touch feature.

2.Parameter numeric input

When the selected parameter item needs to enter a value, a window like Figure 4

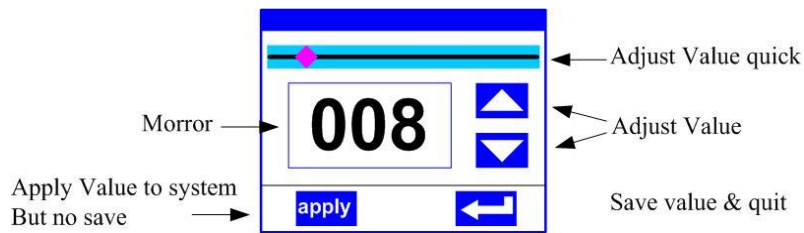


Figure 4 Numerical Settings page

- **Set the value:** You can quickly set the desired value by pulling the slider directly, or you can set the desired value precisely by clicking the "Up" or "Down" button on the right or by using the assisted input.
- **Apply value:** When the data is set by the "up" or "down" button, and then press the "apply" application key in the lower left corner, the value is immediately sent to the lamp, but the value is not saved.
- **Save value:** Any time you click the OK key in the lower right corner, save the current value to the internal storage and apply the saved value to the lamp the next time you power on.

3.Set the Boolean parameter

1. When you set a boolean value, such as ON or OFF, you can simply click on the corresponding item to switch parameter values, which are modified and saved to the internal store. Press the parameter option on the right and the corresponding option will turn gray. When the hand is released, the corresponding parameters are changed and saved. If pressing the parameter option is not a parameter that you want to change, you can move your finger to another part of the screen and the parameters will not change.
2. The determination of the important Boolean parameters is set by the determination window, as shown in Figure 5 below:

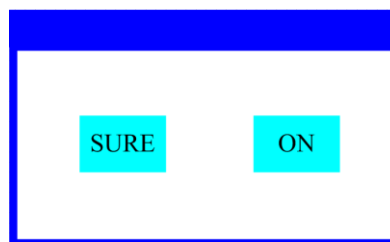


Figure 5 determines the input window

1.Subpages (arguments)

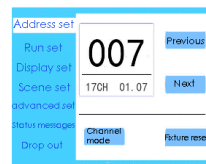


Figure 6-1 Address set

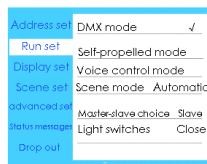


Figure 6-2 Run set

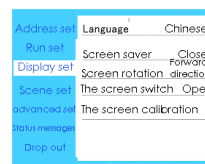


Figure 6-3 Display set

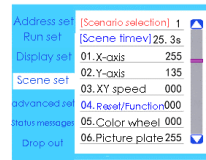


Figure 6-4 Scene set

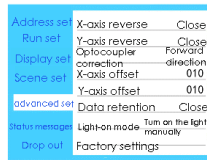


Figure 6-5 Advanced set

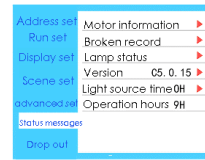


Figure 6-6 Status messages

1.Function operation and parameter settings

Go to the setup interface, as shown in Figure 6-1:

- In the main interface, you can select six buttons to enter the corresponding parameter settings interface.
- In the parameter settings interface, you can press the left blue option to quickly switch to another settings interface.

1.Set the DMX address code

The DMX address, channel mode, and so on of the luminaire can be set from the page shown in Figures 6-1.

The menu settings of the lamp optimize the settings of the address, and several set address code operations are as follows:

- Select "last" or "next", lamps will be based on the current address code and channel data, automatically calculate the next or previous address code, you can quickly set;
- Click on the address number to enter the numeric editing window, where you can set any valid address code, the lamp automatically obtains the current number of channels for the lamp, and automatically filters the unusable address code (512- the current number of channels).
- Lamps support the RDM protocol and the lamp address code can be set remotely via RDM.

Two buttons are available:

- Channel mode: you can choose different channel modes in a loop;
- Lamp reset: Reset all motors.

2.Set the lamp operating mode

The operating mode of the luminaire and the control lamp can be set up from the page shown in Figures 6-2. The luminaires support four operating modes (DMX mode, walk-by mode, voice mode, and scene mode), please refer to the previous section for detailed parameter numerical settings, which are described in the following table:

Run mode

DMX mode	Console mode, receiving DMX signal, RDM signal
Self-walking mode	The luminaires run automatically according to the built-in program
Voice mode	When a lamp detects a strong sound, the luminaire automatically runs a scene

	according to the built-in program, otherwise the last scene is maintained	
Scene mode 01	Runs as a set scene and supports custom editing of up to 10 scenes	
	1~10	Output the specified scene
	automatic	The scene is automatically cycled out in the order of set scene time (non-0), and the scene with a time of 0 automatically skips ignored
Master selection	When non-DMX mode is in effect, select the mode of data output, and the luminaire automatically detects the DMX status to automatically switch outputs to prevent data conflicts	
	host	The luminaire runs with built-in, and if the DMX has no signal, the output data (synchronization) is not output
	Slave	Lamps run with built-in, no output data (out of sync other luminaires)
	automatic	If the DMX has no signal, the luminaire operates as built-in, otherwise the luminaire operates on the DMX signal
Light bulb switch	(bulb light source) pops up the confirmation dialog box, select "SURE" to confirm the current operation, turn the bulb on or off, switch interval limited to 30 seconds	
	Shut down	The current bulb output is turned off
	Open	The current light output is turned on

Scene mode is suitable for single or a small number of lamps, just output a fixed scene, or need to run a simple program, you can not connect the console, edit in the scene page.

If the light source of the lamp is a light bulb, wait 10 minutes after turning the bulb off before turning it on.

1.Panel display settings

Lamps support bilingual chinese and English, upside-down display, etc., enter the corresponding parameter settings set as shown in Figures 6-3, the specific menu content is as follows:

Show settings

language	Set the language in which the display is displayed	
	English	Shown in English
	Chinese	Chinese display
Screen saver	Sets what or how the screen will appear after no action is done for 30 seconds	
	Shut down	Keep the last action page, bright screen
	Mode 1	Off-screen
	Mode 2	Black screen, showing the address code of the current lamp in the lower left corner
	Mode 3	Displays trademark information, address codes, and operating modes
The screen rotates	Set the orientation of the screen	
	Shut down	The display is not reversed
	Open	Reverse display
	automatic	Automatic detection of the direction of the lamp hanging lamp, automatic switching of the display direction
DMX indicates	Set the indication mode of DMX signal indicator	

	Mode 1	On when there is a signal, and off when there is no signal
	Mode 2	On when there is a signal, when there is no signal, it is on
	Mode 3	Flashes when there is a signal and goes out when there is no signal
The signal indicates brightness	Set the brightness of the signal light	
	1~10	10 levels
Screen backlight	Sets the brightness of the screen backlight after 10 seconds of no operation, when fully lit	
	1~10	10 levels
Touch switch	Choose whether to disable the touch screen, disable touch when the screen touch is accidentally damaged, and set the luminaire with the auxiliary input	
Touch correction	When the screen touch is inaccurate, you can go to the correction page correction screen	

Touch-enabled luminaires, if there is a bad touch, you can go to the correction page to re-correct the touch accuracy of the touch screen, under normal circumstances, please do not enter this page. If the touch is damaged, choose to disable the touch switch.

1.Scene mode

Go to the page shown in Figures 6-4, where the luminaire enters scene editing mode, where the lamp does not receive DMX console data, and the edited data is immediately reflected on the lamp.

The content of the page depends on the channel currently selected, and the channel content and order displayed are consistent with the lamp channel table, through which you can edit 10 scenes as follows:

Scene mode

Scene selection	Select the scene that currently needs to be manipulated	
	1~10	10 scenes to format
Scene time	Sets the retention time, in 0.1 seconds, of the current scene when automatic	
	0	The current scene does not participate in automatic scene output
	1-255	0.1 seconds to 25.5 seconds
1. X-axis	0-255	Set the data for each channel, which shows the content and order corresponding to the channel table of the lamp
.....	0-255	
.....	0-255	
N Y-axis	0-255	

If you edit a valid reset data in a reset channel in the scene, the luminaire resets, but after the reset, the value of the corresponding reset channel is automatically zeroed to prevent multiple consecutive resets.

By viewing this page, you can obtain the current channel table order of the luminaires, please refer to the detailed channel description for specific channel data.

1.Set the working parameters of the lamp

Go to the page shown in Figures 6-5, adjust the on-site parameters of the luminaire, facilitate

the on-site installation of the lamp, etc.:

Advanced settings

X-axis reverse	Set the direction of rotation of the X-axis	
	Shut down	Not reversed
	Open	reverse
Y-axis reverse	Set the Y-axis rotation direction	
	Shut down	Not reversed
	Open	reverse
Optocoupling correction	Set whether the luminaire detects XY out of step and corrects	
	Shut down	Do not correct the position after the step is lost
	Open	The position is automatically corrected after the out-of-step and the out-of-step fault is logged
X-axis offset	Sets the position of the X-axis zero of the luminaire	
	4-150	
Y-axis offset	Set the position of the lamp Y-axis zero point	
	4-48	
Data hold	The output status of the luminaire when the lamp is set without a DMX signal	
	Shut down	There is no signal, so the motor and light source return to the position and state when the reset is complete
	Open	No signal to maintain the last frame of DMX data output
Turn on the light mode	Set the way the bulb is turned on for the first time after powering on	
	Power on and bubble	Turn on the light bulb when powering on and reset the lamp after 30 seconds
	Bubble after reset	Reset the lamp after 3 seconds of power-up and turn on the bulb when the reset is complete
	Open the bubble manually	When the reset is complete, turn the bulb on manually via the menu or console
Factory settings	Pop up the confirmation box and select "SURE" and the luminaire parameters return to the factory settings	

When selecting the power-on foam mode, the lamp will wait for the bulb for 30 seconds after power-up, let the bulb fully start, the internal voltage is stable enough, and then start the reset program, if the use of on-site power capacity is stable, recommended power-on bulb mode.

When the luminaire cannot correct the position, first check that Optocoupling Correction is turned off.

When the signal is unplugged, check the Data Hold setting first if the position of the luminaire is not output as intended.

When setting the XY offset, when the setting is complete, control XY with the maximum stroke to check that X Y does not hit the positioning lever or housing after the setting.

1. View the current status of the luminaire

Go to the page shown in Figures 6-6 to view the information and real-time status of the luminaire to know the status of the lamp, if the lamp needs to be sold, please provide the status information displayed on the page as a basis for judgment, as shown in the following table:

Status information

Motor information	Displays the information status of all motors and signals in the luminaire	
	Hall	Do not show that the motor does not have Hall correction, 0 indicates that the motor leaves the correction position point, and 1 indicates that the motor is at the correction position point
	state	Displays the status of the motor reset completion
	X-axis	Displays the real-time position value of X-axis optical coupling feedback
	Y-axis	Displays the real-time position value of the Y-axis optocoupling feedback
	Optocoupling	Displays the level status of the X and Y axis optocoupled signals, binary
Fault / status record	Displays the last 8 fault records of the lamp reset and operation, which are not saved after power-down and are valid during the current power-up cycle	
	Fault data	The total number of faults detected after power-up
	12 : :03	The power-on time, in minutes, when the fault occurred
	Hall fault	The motor did not detect a valid Hall signal when the corresponding motor was reset
	Hall short circuit	The Hall signal of the motor detected when the corresponding motor is reset is always valid
	Optocoupling failure	No valid optocoupling signal was detected when the corresponding motor was reset
	Out of step	The corresponding motor is out of step during operation
	Hit the pole	Hit the positioning lever when the corresponding motor is reset
	The bulb is faulty	The bulb bubbled out unexpectedly
	The sensor is faulty	The temperature sensor signal is abnormal,
	The fan is faulty	The main fan is not working properly
The status of the lamp	Displays key status data for the current luminaire for reference	
	correspondence	0 to 100%, the communication quality of the internal data link of the lamp
	The error count	The number of error frames detected after power-up, cumulative
	The temperature of the light source	Displays the temperature of the current light source, and --- indicates no detection
	The display board temperature	Displays the temperature of the current display board or the ambient temperature nearby
	Sensor 1 temperature	Displays the current board temperature or the ambient temperature at the board installation location
Version information	Show information and version of current lamps, important references for after-sales maintenance	
	equipment	The name of the lamp, the same equipment information as the RDM
	Model	The model number of the lamp, the same as the model

		information of the RDM
	The display board	The firmware version and serial number of the display board
	Motherboard 1	The firmware version and serial number of Motherboard 1
Light time	Record the total cumulative time of light source on, unit minutes, the user uses manual removal, as a reference for the time of regular maintenance and maintenance of the light source	
Lamp time	Record the total cumulative time of lamp opening, unit minutes, not cleared	

Chapter 1 Channel Description

1.Channel table

This luminaire channel can be viewed in scene mode, the channel mode is set in the Address Settings page, the details are shown in the following table:

Channel table

Channel 1	name	numeric value	description
CH1	X-axis	0-255	0-540 degrees
CH2	X-axis fine-tuning	0-255	0-2 degrees
CH3	Y-axis	0-255	0-270 degrees
CH4	Y-axis fine-tuning	0-255	0-1 degrees
CH5	XY speed	0-255	From fast to slow
CH6	Dimming	0-255	0-100% dimming
CH7	Strobe	0-3	Turn off the light
		4-99	From slow to fast pulse strobe
		100-199	From slow to fast gradient strobe
		200-249	Random strobes from slow to fast
		250-255	Turn on the light
CH8	color	0-9	white light
		10-19	Color 1
		20-29	Color 2
		30-39	Color 3
		40-49	Color 4
		50-59	Color 5
		60-69	Color 6
		70-79	Color 7
		80-89	White Light and Color 1
		90-99	Color 1 plus Color 2
		100-109	Color 2 plus Color 3
		110-119	Color 3 plus Color 4
		120-129	Color 4 plus Color 5

		130-139	Color 5 plus Color 6
		140-149	Color 6 plus Color 7
		150-159	Color 7 plus white light
		160-204	Flowing water in the direction of fast to slow
		205-210	white light
		211-255	Reverse flow from slow to fast
CH9	pattern	0-4	white light
		5-9	Pattern 1
		10-14	Pattern 2
		15-19	Pattern 3
		20-24	Pattern 4
		25-29	Pattern 5
		30-34	Pattern 6
		35-39	Pattern 7
		40-44	Pattern 8
		45-49	Pattern 9
		50-54	Pattern 10
		55-64	From slow to fast jitter pattern 1
		65-74	From slow to fast jitter pattern 2
		75-84	From slow to fast jitter pattern 3
		85-94	From slow to fast jitter pattern 4
		95-104	From slow to fast jitter pattern 5
		105-114	From slow to fast jitter pattern 6
		115-124	From slow to fast jitter pattern 7
		125-134	From slow to fast jitter pattern 8
		135-144	From slow to fast jitter pattern 9
		145-154	From slow to fast jitter pattern 10
		155-202	Flowing water in the direction of fast to slow
		203-206	Stop it
		207-255	Reverse flow from slow to fast
CH10	Rotate the pattern	0-9	white light
		10-19	Pattern 1
		20-29	Pattern 2
		30-39	Pattern 3
		40-49	Pattern 4
		50-59	Pattern 5

		60-69	Pattern 6
		70-79	From slow to fast jitter pattern 1
		80-89	From slow to fast jitter pattern 2
		90-99	From slow to fast jitter pattern 3
		100-109	From slow to fast jitter pattern 4
		110-119	From slow to fast jitter pattern 5
		120-139	From slow to fast jitter pattern 6
		140-202	Flowing water in the direction of fast to slow
		203-207	Stop it
		208-255	Reverse flow from slow to fast
CH11	Pattern rotation	0-127	0-400 degree
		128-190	Flowing water in the direction of fast to slow
		191-192	Stop it
		193-255	Reverse flow from slow to fast
CH12	Prism 1	0-127	Move the prism
		128-255	Insert the prism1
CH13	Prism 1 rotation	0-127	0-400 degree
		128-190	Flowing water in the direction of fast to slow
		191-192	Stop it
		193-255	Reverse flow from slow to fast
CH14	atomization	0-127	not
		128-255	atomization
CH15	Focusing	0-255	From far to near
CH16	magnify	0-255	From small to large
CH17	function		
CH18	reposition	251-255	Reset all in more than 5 seconds

Chapter 1 Notes on Common Failures and Use

Common fault handling

Lamps contain microcomputer circuit boards, high-voltage power supply and other professional components, for your safety and product life, non-professionals do not remove lamps and related accessories.

1.The bulb is not lit (except for LED light sources).

Possible causes: the bulb is not completely cooled, or the lamp has a lifetime, handled as follows:

- Due to abnormal operation, the bulb is not completely cooled, should let the lamp body cool for more than 10 minutes, so that its interior fully restored to normal state, and then start the power supply again;
- Check that the bulb has reached service life and replace the new bulb;
- Check the bulb and lighter line for leakage, shedding or poor contact;
- Replace the new lighter.

2.The beam looked dim

Possible causes: The bulb is used for a long time or the light path is not clean, as follows:

- Check that the bulb has reached service life and replace the new bulb;
- Check that the optical components or bulbs are clean, and that there is dust on the optics such as bulbs, and that the bulbs and components in the lamps are regularly cleaned and maintained.

1.Pattern projection blur

- Check that the electron focus channel value is appropriate for the current projection distance.

2.The luminaires work intermittently

The reason: the internal line enters the protection state, which is handled as follows:

- Check whether the fan is normal operation or dirty, resulting in an increase in the internal temperature of the lamp;
- Check that the internal temperature control switch is closed;
- Check that the bulb has reached service life and replace the new bulb.

1.The lamp is not under the control of the console after a normal reset

Possible causes: signal line failure or lamp parameters are not set correctly, the treatment is as follows:

- Check the starting address code and check the connection of the DMX signal cable (the signal cable is intact and the Nong head connection is loose);
- Plus signal amplifier, plus 120 ohm terminal resistance;

1.The luminaire cannot be started

Can cause: poor power line, treatment as follows:

- Check whether the insurance on the power input socket is fused and replace the insurance;
- Lamps in long-distance transport due to vibration caused by poor line contact
- Check the input power supply, computer board, etc.

1.Precautions for use

- Check whether the local power supply meets the product voltage rating requirements, leakage protectors, overcurrent protectors, etc. meet the load requirements;
- Do not use a damaged power cord with insulation and do not attach the power cord to other wires;
- Lamps are cooled by strong wind, easy to accumulate dust, must be cleaned once a month, especially cooling air vents, otherwise it will be blocked by dust, resulting in poor cooling, so

that the lamp abnormal.

- When installing lamps, the fixing screws must be tightened, and with a safety cable, and regular inspection;
- Lamps in the installation and positioning, any point on the surface of the lamp and any flammable explosives, maintain a minimum distance of 10 meters, 2.5 meters from the irradiant distance, please do not install the lamp directly on the surface of combustible substances;
- The continuous working time of the lamp is not recommended to exceed 10 hours, the continuous start lamp interval should not be less than 10 minutes, otherwise the lamp will not be able to trigger properly due to overheating protection;
- The use of switch valve closure time should not exceed 5 minutes, if the need for a long period of closure, should use the console (lamp control channel) to turn off the lamp gun;
- In order to ensure that more than one lamp better comply with the scene effect, the lamp should not always be in the incomplete current scene, that is, to start the next scene action, preferably this state does not exceed 3 minutes, to ensure that more than one lamp can run synchronously;
- During use, if there is an abnormal lamp should stop using the lamp in time to prevent the induction of other faults.

2.Precautions for RDM use

RDM is an extended version of the DMX512-A protocol, the Remote Device Management protocol, the traditional DMX512 protocol communication is one-way communication, the protocol is based on the RS-485 bus, RS-485 is a time-sharing multipoint, half-duplex protocol, at the same time only allows one port for host output, so use RDM should pay attention to the following points:

- To use a console or host device that supports RDM protocol hosts;
- To use a two-way signal amplifier, the traditional one-way signal amplifier does not apply to the RDM protocol because the RMD protocol requires feedback data, and the use of a one-way amplifier blocks the returned data, resulting in no luminaires being searched;
- All luminaires must be set to DMX mode to ensure that there is only one host on the signal line;
- A 120ohm impedance matching resistor must be inserted between terminals 2 and 3 of the terminal plug, and when the signal line is longer, reducing signal reflection will use differential signals to be more stable and conducive to the quality of communication;
- When a luminaire is controlled by DMX, but the RDM cannot search for luminaires, check the signal amplifier first, and then check the signal line 2,3 lines for bad line contact.