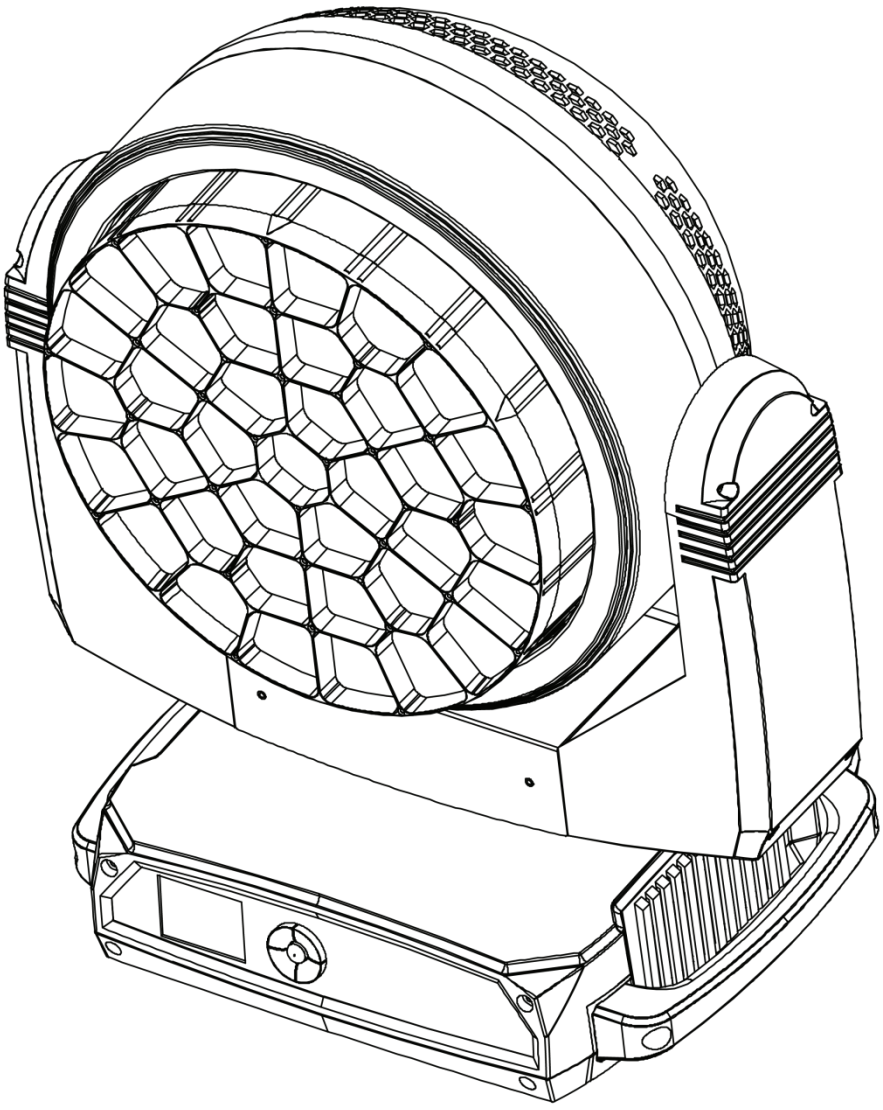
# SPARTAN K25



# USER MANUAL

For safety purpose, pleas read this manual carefully before your operation.

# TABLE OF CONTENTS

# Chapter 1 Precautions and Installation

## 1.1 Maintenance

- The lamp should be kept dry and avoid working in a humid environment.
- Intermittent use will effectively extend the life of the lamp.
- In order to obtain good ventilation and lighting effects, it is necessary to clean the fan, fan net and lens frequently.
- Do not wipe the lamp housing with organic solvents such as alcohol to avoid damage.

## 1.2 Statement

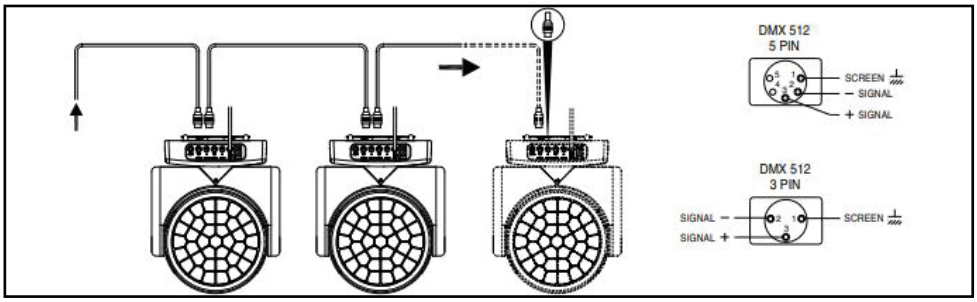
This product has good performance and complete packaging when it comes into the factory. All users should strictly abide by the warnings and operating instructions stated above. Any damage caused by misuse is not covered by our company's guarantee. Failures and problems caused by ignoring the operating manual are not within the scope of the dealer's responsibility. .

This manual is subject to technical changes without notice.

## 1.3 Product precautions

- In order to ensure the service life of the product, do not place this product in a humid or leaking place, let alone at a temperature exceeding 60 Environmental work above
- Do not place this product in a place subject to looseness or vibration.
- In order to avoid the risk of electric shock, the maintenance of this product requires professional maintenance.
- When the bulb is in use, the power supply voltage should not change more than ±10%. Too high voltage will shorten the life of the bulb, and too low voltage will affect the light color of the bulb.
- After the power is cut off, it takes 20 minutes to use the lamp to fully cool down before it can be powered on again.
- To ensure the normal use of this product, please read this manual carefully. Signal line connection (DMX)
- Use RS-485 cables that meet the specifications: shielded, 120ohm characteristic impedance, 22-24 AWG, low capacitive reactance. Do not use microphone cables or cables with different specified characteristics. The terminal connection must use a 3 or 5 pin XLR type male/female connector. (Minimum 1/4 W).

Important note: The wires cannot touch each other or the metal shell.




DMX Signal line connection diagram

## 1.4 Lamp installation

The lamps can be placed horizontally, hung diagonally and upside down. Pay attention to the installation method when hanging diagonally and upside down.

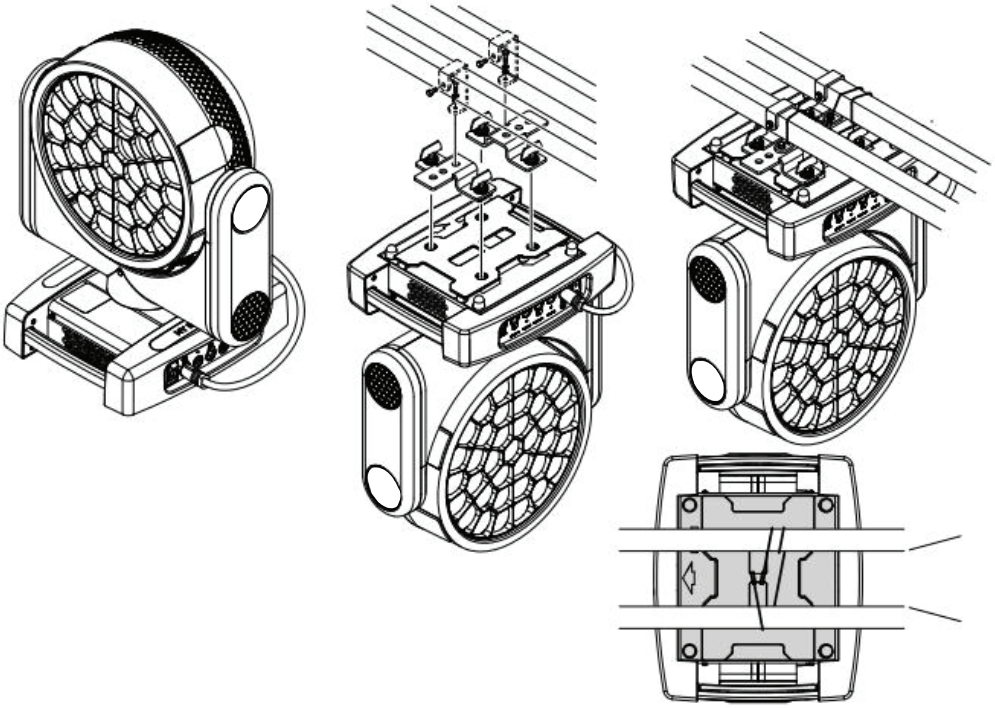
As shown in Figure 2, before locating the lamp, ensure the stability of the installation site. When installing inverted and hanging, you must ensure that the lamp does not fall down on the

support frame. A safety rope needs to pass through the support frame and the lamp lift. Hand assist hanging to ensure safety and prevent the lamp from falling and sliding.

When the lamps are installed and debugged, pedestrians are prohibited from passing underneath. Regularly check whether the safety ropes are worn and the hook screws are loose.

Our company will not bear any responsibility for all the consequences caused by the lamp falling due to unstable hanging installation.

Figure 2 Upside down



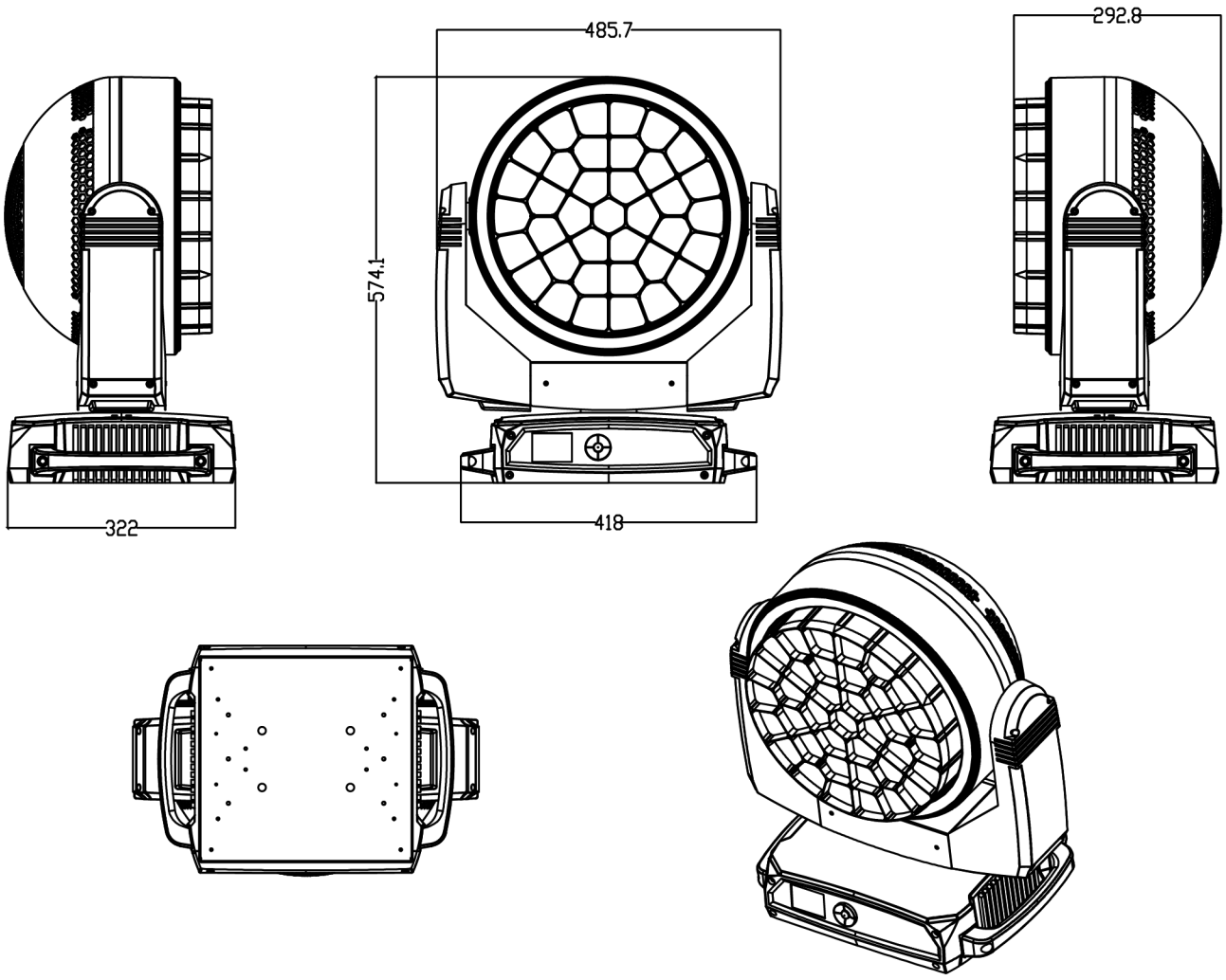
# Chapter 2 Product introduction

## 2.1 Product parameter

Input voltage:
90-240v/50-60hz
Power Consumption:
1250W
Lamp Source:
37PCS 40W RGBW LEDs
Channels:
22/36/111/148CH
OPTICS:
4°-60° Electronic Zoom Range
EFFECTS SECTION
Three operating modes:
wash, beam, FX (Kaleido effects)
Bi-directional Rotating Front Lens
Digital Wash-Beam Framing effect
Beam edge softening control (in Wash mode)
Battery:
Customize
Art:
Customize
Led Life:
50000hours
White CT emulation:
2500-8000k
Pan&tilt resolution:
16bit
Dimmer resolution:
16bit
Control:
DMX 512
DMX signal connection:
3&5pin in&out
Strobe:
1-25flash/s
N.W.:
24KG

## 2.2 Product accessories

## 2.3 Fixture Size




# Chapter 3 Panel Operation

## 3.1 Outline

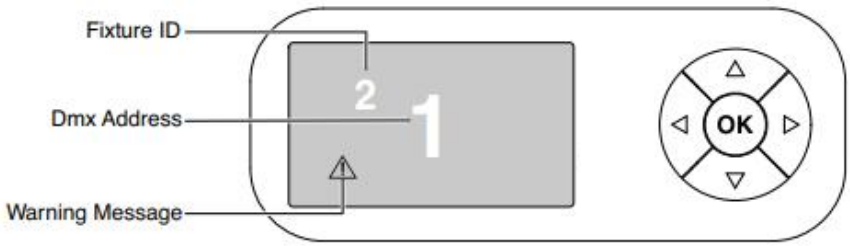



**Figure 8**

- On conclusion of resetting in case of absence of the dmx signal, Pan and Tilt move to the "Home" position (Pan 128 bit - Tilt 128 bit). The control panel

- (Fig. 8) has a display and buttons for the complete programming and management of the projector menu. The display can be in one of two conditions:
- rest status and setting status. When it is in the rest status, the display shows the projector’s DMX address and the Fixture ID address (if set).
- During menu setting status, after a wait time (about 30 seconds) without any key having been pressed, the display automatically returns to rest status.
- It should be noted than when this condition occurs, any possible value that has been modified but not yet confirmed with the Fkey will be cancelled.

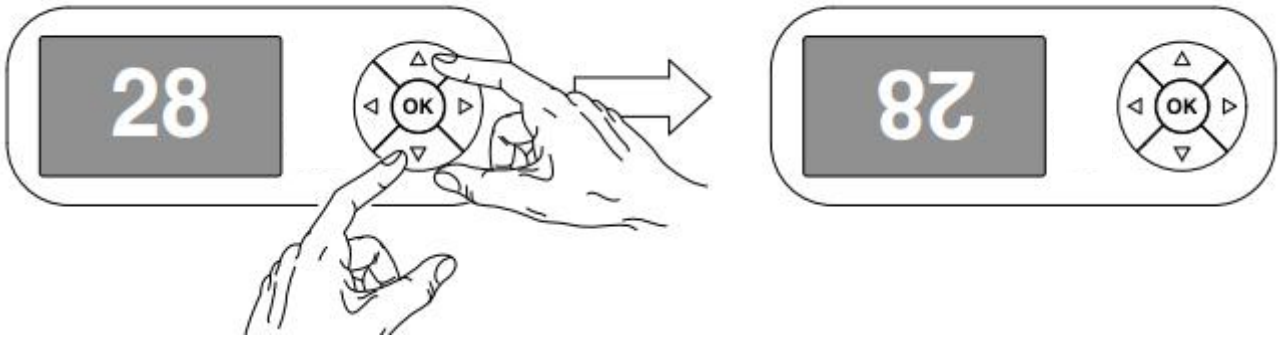
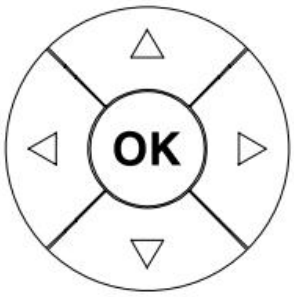



**Figure 9　Reversal of the display**

- To activate this function, press UPBand DOWNCkeys simultaneously while the display is in the rest mode. This status will be memorised and
- maintained even for the next time it will be switched on. To return to the initial state, repeat the operation all over again.
- Setting the projector starting address
- On each projector, the starting address must be set for the control signal (addresses from 1 to 512).
- The address can also be set with the projector switched off.
- Setting the projector Fixture ID
- On each projector, the Fixture ID address must be set for an easy identification of the fixtures in an installation (ID from 1 to 255).
- The Fixture ID address can be set with the projector switched off.

## 3.2 Functions of the buttons - Using the menu




| | |
|---|---|
| OK | Confirms the displayed value, or activates the displayed function, or enters the successive menu. |
| DOWN | Decreases the value displayed (with auto-repetitions) or passes to the next item in the menu. |
| UP | Increases the value displayed (with auto-repetitions) or passes to the previous item in a menu. |
| LEFT | Return to the top level. |
| RIGHT | Commute from units, tens, hundreds, in the "Address", "Fixture ID" and "Calibration" menù. |

### 3.2.1 Using The Meun:

- Press F once – “Main Menu” appears on the display.
- Use the UP B and DOWN C keys to select the menu to be used:

a. Setup (Setup Menu): To set the setting options.

b. Option (Option Menu): To set the operating options

c. Informations (Informations Menu): To read the counters, software version and other information.

d. Manual Control (Manual control Menu): To trigger the test and manual control functions.

e. Test (Test Menu): To check the proper functionning of effects

f. Advanced (Advanced Menu): Access to the "Advanced menu" is recommended for a trained technical personnel.

- Press F to display the first item in the selected menu.
- Use the UP B and DOWN C keys to select the MENU items.

## Setting addresses and options with the projector disconnected

- The projector’s DMX address, as well as other possible operating options, can also be set when the appliance is disconnected from the electricity supply. All that is needed is to press F to momentarily activate the display and thus access the settings. Once the required operations have been carried out, the display will switch off again after a wait time of 30 seconds.

# Chapter 4 Channel Description

## 4.1 Basic Engine

### 4.1.1 Standard

| CHAN-NEL | CHANNEL MODE |
|---|---|
| 1 | Red |
| 2 | Red fine |
| 3 | Green |
| 4 | Green fine |
| 5 | Blue |
| 6 | Blue fine |
| 7 | White |
| 8 | White fine |
| 9 | Linear CTO |
| 10 | Macro colour |
| 11 | Strobe |
| 12 | Dimmer |
| 13 | Dimmer Fine |
| 14 | Pan |
| 15 | Pan Fine |
| 16 | Tilt |
| 17 | Tilt Fine |
| 18 | Function |
| 19 | Reset |
| 20 | Zoom |
| 21 | Zoom Rotation |
| 22 | Frequency<br>(if standard + frequency mode is selected) |

### 4.1.2 Shapes

| CHAN-NEL | CHANNEL MODE |
|---|---|
| 1 | Red |
| 2 | Red fine |
| 3 | Green |
| 4 | Green fine |
| 5 | Blue |
| 6 | Blue fine |
| 7 | White |
| 8 | White fine |
| 9 | Linear CTO |
| 10 | Macro colour |
| 11 | Strobe |
| 12 | Dimmer |
| 13 | Dimmer Fine |
| 14 | Pan |
| 15 | Pan Fine |
| 16 | Tilt |
| 17 | Tilt Fine |
| 18 | Function |
| 19 | Reset |
| 20 | Zoom |
| 21 | Zoom Rotation |
| 22 | Shape Selection |
| 23 | Shape Speed |

| CHAN-NEL | CHANNEL MODE |
|---|---|
| 24 | Shape Fade |
| 25 | Shape R |
| 26 | Shape G |
| 27 | Shape B |
| 28 | Shape W |
| 29 | Shape Dimmer |
| 30 | Background Dimmer |
| 31 | Shape Transition |
| 32 | Shape Offset |
| 33 | Foreground Strobe |
| 34 | Background Strobe |
| 35 | Background Select |
| 36 | Frequency (if shape + frequency mode is selected) |

## 4.2 Pixel Engine

**Pixel Engine** need to be enabled through the FUNCTION channel (bit 103-105).

### 4.2.1 RGB

| CHAN-NEL | CHANNEL MODE |
|---|---|
| 1 | Red LED 1 |
| 2 | Green LED 1 |
| 3 | Blue LED 1 |
| ... | Red LED … |
| ... | Green LED … |
| ... | Blue LED … |
| 109 | Red LED 37 |
| 110 | Green LED 37 |
| 111 | Blue LED 37 |

### 4.2.2 RGBW

| CHAN-NEL | CHANNEL MODE |
|---|---|
| 1 | Red LED 1 |
| 2 | Green LED 1 |
| 3 | Blue LED 1 |
| 4 | White LED 1 |
| ... | Red LED … |
| ... | Green LED … |
| ... | Blue LED … |
| ... | White LED … |
| 145 | Red LED 37 |

| | |
|---|---|
| 146 | Green LED 37 |
| 147 | Blue LED 37 |
| 148 | White LED 37 |

# Chapter 5 Common Faults and Usage Notes

## 5.1 Common troubleshooting

- The lamp contains professional components such as microcomputer circuit board and high-voltage power supply. For your safety and product life, non-professionals should not disassemble the lamp and related accessories without authorization.

### 5.1.1 Bulb does not light up (except LED light source

Possible cause: The bulb is not completely cooled, or the bulb has reached the end of its life, the treatment is as follows:

- Due to abnormal operation, the bulb has not been completely cooled, so let the lamp body cool down for more than 10 minutes to make the interior completely return to normal state, and then turn on the power again.
- Check whether the bulb has reached the end of its service life and replace it with a new one;
- Check whether the bulb and the lighter circuit are leaking, falling off or having poor contact;
- Replace with a new lighter.

### 5.1.2 Light beam appears dim

Possible cause: The lamp has been used for a long time or the light path is not clean. The treatment is as follows:

- Check whether the bulb has reached the end of its service life and replace it with a new one;
- Check whether the optical components or bulbs are clean, and whether there is dust on the bulbs and other optical components, you need to clean and maintain the bulbs and various components in the lamps regularly.

### 5.1.3 Blurred pattern projection

- Check whether the electronic focus channel value is suitable for the current projection distance.

### 5.1.4 Lamp works intermittently

Possible cause: The internal circuit enters the protection state, and the treatment is as follows:

- Check whether the fan is operating normally or whether it is dirty, causing the internal temperature of the lamp to rise;
- Check whether the internal temperature control switch is in the closed state;
- Check whether the lamp has reached the end of its life, and replace it with a new one.

### 5.1.5 After the lamp is reset normally, it does not accept the control of the console

Possible cause: The signal line is faulty or the lamp parameter setting is not normal, the treatment is as follows:

- Check the start address code and check the connection of the DMX signal line (whether the signal line cable is intact and whether the connection of the DMX connector is loose);
- Add signal amplifier and 120 ohm terminal resistance;

### 5.1.6 The lamp cannot be started

Possible cause: The power line is bad, the treatment is as follows:

- Check whether the fuse on the power input socket is blown, replace the fuse;
- The lamp has poor line contact due to vibration during long-distance transportation
- Check the input power, computer board and other plug-in devices.

## 5.2 Precautions for use

Check whether the local power supply meets the product's rated voltage requirements, and the leakage protector and overcurrent protector meet the requirements of the load.

begging

- Do not use power cords with damaged insulation, and do not overlap power cords with other wires;
- The lamp adopts strong air cooling, which is easy to accumulate dust. It must be cleaned once a month, especially the heat dissipation vent, otherwise it will be blocked by the accumulation of dust, resulting in poor heat dissipation and abnormality of the lamp.
- When installing the lamp, the fixing screws must be fastened, with safety cables, and regular

inspections;

- When installing and positioning the luminaire, keep a minimum distance of 10 meters between any point on the surface of the luminaire and any flammable and explosive objects, and a distance of 2.5 meters from the irradiated object. Please do not install the luminaire directly on the surface of combustible materials;;
- It is recommended that the continuous working time of the lamp should not exceed 10 hours, and the interval between continuous starting of the lamp should not be less than 10 minutes, otherwise it will not be triggered normally due to the lamp overheating protection;
- The closing time using the on-off valve should not exceed 5 minutes. If you need to close the light for a long time, you should use the console (light bulb control channel) to turn off the light bulb;
- In order to ensure that multiple lamp better comply with the scene effect, the lamp should not be in the unfinished current scene all the time, that is, start the next scene action. It is best not to exceed 3 minutes in this state to ensure that multiple lamps can run simultaneously;
- During use, if the lamp is abnormal, stop using the lamp in time to prevent other malfunctions.

## 5.3 RDM usage precautions

RDM is an extended version of the DMX512-A protocol, a remote device management (Remote Device Management) protocol, the traditional DMX512 protocol communication is one-way communication, the protocol is based on the RS-485 bus, and RS-485 is a time-sharing multipoint, half-duplex protocol , Only one port is allowed to output from the host at the same time, so, pay attention to the following points when using RDM:

- To use a console or host device that supports RDM protocol host;
- To use a two-way signal amplifier, the traditional one-way signal amplifier is not suitable for the RDM protocol, because the RMD protocol requires feedback data, and the use of a one-way amplifier will block the returned data, resulting in not being able to search for lamps;
- The lamp 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 the terminals 2 and 3 of the terminal plug. When the signal line is relatively long, the differential signal will be used to be more stable and beneficial to the quality of communication;

- When it appears that the lamp accepts DMX control, but cannot search for the lamp by RDM, first check the signal amplifier, and then check whether there is a bad connection between the 2 and 3 lines of the signal line.