

# LIGHT ENGINE USER MANUAL

MODEL: LLE-004TW

## Accessories:

|                           |                |
|---------------------------|----------------|
| Fiber Connector.....      | 1pc            |
| RF Remote Controller..... | 1pc (Optional) |
| User Manual.....          | 1pc            |
| Power Adaptor.....        | 1pc            |



CE RoHS

# LIGHT ENGINE USER MANUAL



Please read the User Manual carefully before operation. Our company reserves the right to interpret the contents of the Manual. The appearance of light engines of different models may vary from the above pictures. Specifications, appearance, functionality, software, etc. are subject to change without prior notice



Please read the User Manual carefully before use.  
If you have any questions about the safe operation and maintenance of light engines, please contact the dealer.

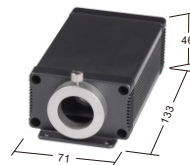
## Usage Guidelines

### Safety Warnings:

1. Make sure the power supply voltage is compatible with the light engine;
2. Prohibit use at high temperature ( $\leq 40^{\circ}\text{C}$ );
3. Prohibit installation in a small enclosed space to avoid insufficient heat dissipation;
4. Prohibit placing in rain or humid places to prevent the risk of electric shock;
5. Prohibit looking directly at the LED module through the port of the light engine.

## CHAPTER1

### I. Dimensions of the Light Engine



### II. Technical parameters:

|                   |                    |                          |                 |
|-------------------|--------------------|--------------------------|-----------------|
| Item No.          | LLE-004TW          | Sound Control            | ✓               |
| Input Voltage     | 12V DC             | Remote Control           | Optional        |
| Power Consumption | 8W MAX             | BLE                      | Optional        |
| Light Source      | 1-2x4W             | Dimensions               | L133XW71XH46 mm |
| Emitting Colors   | White (3000-6000K) | Weight                   | 0.25Kg          |
| Twinkle           | ×                  | Fiber Connector Aperture | φ18/φ20mm       |
| LED Lifespan      | 50000H             | Maximum Fiber Strands    | φ0.75X540PCS    |

### III. Light Engine Settings

The light engine is a regular model with the following control modes:

| Working Status | Built-in Programs | Remote Control | DMX Controller | Sound | BLE APP |
|----------------|-------------------|----------------|----------------|-------|---------|
| Standalone     | ✓                 | ✓              | ×              | ✓     | ✓       |

When the light engine is on, press the Program button to select a program. Each time the button is pressed, one of the built-in programs will be selected in turn, as shown the following table.

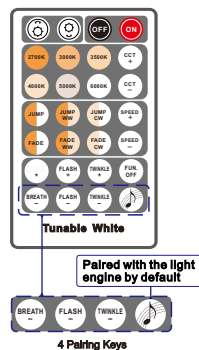
**Table of the built-in programs**

| Program No. | Description | Program No. | Description |
|-------------|-------------|-------------|-------------|
| 01          | Light out   | 06          | 4500K       |
| 02          | 3000K       | 07          | 5000K       |
| 03          | 3150K       | 08          | 5500K       |
| 04          | 3500K       | 09          | 6000K       |
| 05          | 4000K       |             |             |

### IV. Remote control Instructions:

#### 1. Before using the remote control:

- (1) By default, the light engine and the remote control in the same box have been paired. The light engine can be controlled by the paired remote control only. Do not mix the light engine with other remote controls
- (2) Before using the remote control, ensure that the remote control has a fresh button cell. (The remote control does not come with batteries. You need to purchase CR2025/2032 on your own).
- (3) If necessary, you can pair the current light engine with more remotes. It is also possible to pair the current remote with more light engines.



#### 2. How to pair the remote control and the machine:

- (1) Press and hold any one of the four pairing keys on the remote control.



- (2) Turn on the light engine to activate pairing.
- (3) The light engine will flash 2 times slowly and 3 times quickly.
- (4) The remote control and the machine are successfully paired.
- (5) Release the pairing key.

#### 3. The pairing rule of the remote control and the light engine:

- (1) The four keys in the last row of the remote control, are the four pairing keys.
- (2) Each Pairing Key can be paired with multiple light engines and will have the same effect.
- (3) Each light engine can be paired with at most four different Pairing Keys, namely respectively. These four Pairing Keys with different icons can come from different remote controls.
- (4) Once the device is successfully paired with the remote control, the pairing function cannot be canceled, but can be overwritten.
- (5) For the same light engine, a new pairing key will overwrite the previous pairing key with the same icon.
- (6) The light engine can be paired no matter it is a master or a slave machine.

#### 4. The buttons of the remote control

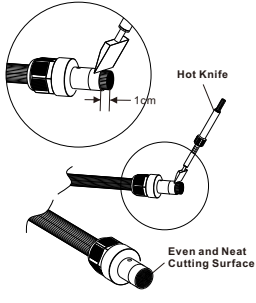
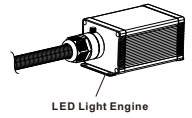
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|  | Dimming+/- (7-tier)<br>ON/OFF                                                                                                                                                                                                             |
|  | Static color temperature<br>(3000K, 3150K, 3500K, 4000K, 5000K, 6000K)<br>CCT+/-: Increase/decrease the color temperature                                                                                                                 |
|  | JUMP: 3000K, 6000K Jump<br>JUMP WW: 3000K, 4000K Jump<br>JUMP CW: 4500K, 6000K Jump<br>FADE: 3000K~6000K Fade<br>FADE WW: 3000K~4000K Fade<br>FADE CW: 4500K~6000K Fade<br>SPEED +/-: Color Temperature Cycling Speed Adjustment (7-tier) |
|  | BREATH+/- : Breathing Effect. (7-tier)<br>FLASH+/- : Strobe Effect. (7-tier speed)<br>TWINKLE+/- : This feature is disabled.<br>FUN.OFF : Termination of Breathe / Flashing / Sound control effect.<br>Activate the Sound Control mode    |
|  | 4 Pairing Keys: To match the light engine and the remote control for use. By default,  is paired with the light engine.                                                                                                                   |

### Remarks:

- (1) Press "Breath" or "Flash", the light engine will breathe or flash in a static color temperature of the last emitted color. If "FUN.OFF" is pressed, the current breathing, flash will be turned off, and the light engine will resume the last program.
- (2) The light engine has a memory function. When turned on, the light engine runs the last program before it is turned off.
- (3) To disconnect the Bluetooth connection: press and hold the remote control button "🎵" when the paired light engine is powered on.

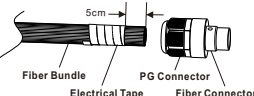
### V . Mobile APP Control

On the first page of the User Manual, there are QR codes for downloading the corresponding mobile APP. Before starting, ensure that the BLE parameter on the light engine is set to "ON ". After downloading the APP, connect the light engine on the APP and operate. If a new mobile phone fails to connect because the light engine has already been connected to other mobile phones, press and hold the remote control button "🎵" while turning on the light engine to disconnect its Bluetooth connection. Then search again and pair the light engine with the new mobile phone. For specific connection steps and operation control methods, please refer to the APP User Manual (available from the sales).

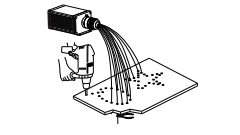
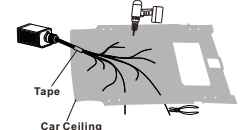
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|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>Hot Knife</p> <p>1cm</p> <p>Even and Neat Cutting Surface</p> | <p><b>Step B:</b></p> <ol style="list-style-type: none"> <li>1.Push the fiber bundle 1cm out of the fiber connector, and fasten the nut of the PG connector.</li> <li>2.Heat the hot knife to about 250 degree Celsius. Hold the hot knife firmly and cut the fiber bundle flush with the fiber connector. The angle between the hot knife and the fiber port is suggested to be 25-30 degrees as shown in the left pictures</li> </ol> <p><b>Remarks:</b></p> <p>If the fiber bundle is not cut well, for example, the surface is not even, not neat, or in other bad conditions, loosen the nut and push the fiber bundle 1cm out of the connector again, and repeat the cutting procedure.</p> |
|  <p>LED Light Engine</p>                                          | <p><b>Step C:</b></p> <p>Loosen the screw on the light engine port ferrule, and insert the ready fiber connector into the ferrule. Then tighten the screw against the countersunk holes on the fiber connector.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## CHAPTER2 Fiber Bundle Assembly and Installation

### 1.Fiber connectors/couplings assembly

|                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>5cm</p> <p>Fiber Bundle</p> <p>Electrical Tape</p> <p>PG Connector</p> <p>Fiber Connector</p> | <p><b>Step A:</b></p> <p>Cut the fiber strands to the desired length. Bundle one end together and make the surface flush. Tighten the bundle with an electrical tape at 5cm away from the end. Loosen the nut on the PG connector, insert the harness end into it. For the sheathed fiber cables, peel off the sheath 10cm before the assembly.</p> <p><b>Remarks:</b></p> <p>The fiber bundle needs to match the fiber connector in size. If the port aperture is bigger than the bundle, insert dead fiber strands into the fiber connector to make it full. Make sure that the fiber strands are straight in the fiber connector, which is better for light output.</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### 2. Fiber strands installation on ceilings

|                                                                                                                   |                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                 | <ol style="list-style-type: none"> <li>1. Drill holes on the ceiling as required by the pattern. Insert the fiber strands into the holes and glue them with the resin adhesive. Cut the fiber ends flush with the ceiling or leave 2-3mm protrusion.</li> </ol> |
|  <p>Tape</p> <p>Car Ceiling</p> | <ol style="list-style-type: none"> <li>2. The fiber strands cannot be folded in half, and the bending radius should not be less than 10 times of its diameter.</li> </ol>                                                                                       |