Externally controlled LED Controller

CQ-800DP

CE RoHS 2002/95/EC

Welcome to the CQ-800DP Externally controlled LED Master controller, which is primarily used for a large number of LED pixel project. The controller records through a computer and plays offline on an SD card, supporting up to 150000 pixels and meeting the requirements of large-scale lighting projects.

The controller is compatible with most LED driver chips, such as UCS512, SM16512, TM512, MR-DMX05, WS2811, SK6812, TM1809, UCS1903, etc. And it can perform one click addressing on the DMX chip through the output port, which is very suitable for use in engineering projects. The controller automatically adapts to the 1000/100Mbps network to ensure the stability of large-area LED projects. The control system supports multiple control methods such as timed control, DMX console, GPS synchronization, UDP network central control, etc., and can be applied to various LED engineering projects. The controller comes with a built-in DMX console interface, which supports calling scenarios using DMX and RS485 protocols to adjust color and brightness.

1. Features

- Support 150,000 pixel points;

- Compatible with most DMX LED driver IC: UCS512，SM16512，TM512，MR-DMX05 etc.

- Compatible with most SPI LED driver IC: WS2811，SK6812，UCS1903，TM1809 etc.;

- Live control with PC and Stand Alone control with SD Card, Max. 32G, 99 scenes;

- Support single color, color temperature, RGB，RGBW LED;

- Support address the LED driver IC;

- UDP Central Control/WiFi-APP/Timer/RF Remote Control/Sensor Control,Maximum distance between the controller is 80 meters;

- Support adjustable LED brightness, GAMMA, can achieve more accurate color mixing display;

- LCD displays parameters and status;

- Support import LED animation, video animation;

- The software support windows and multi language.

2. Specification

Part No.	CQ-800DP
Input Voltage	100~240V AC
Power Consumption	15W
DMX Chips	UCS512，SM16512, TM512, MR-DMX05 etc.
SPI TTL Chips	WS2811，SK6812，UCS1903，TM1809 etc.
Control pixels	150,000 Max.
SD Memory	32G Max.，99 Scenes
Others	One-Touch Addressing，Timer Control，GAMMA Adjustment，Brightness Adjustment
Dimensions	283x134x45mm (LxWxH)
Environment	IP20, 0~55℃

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3. Dimension
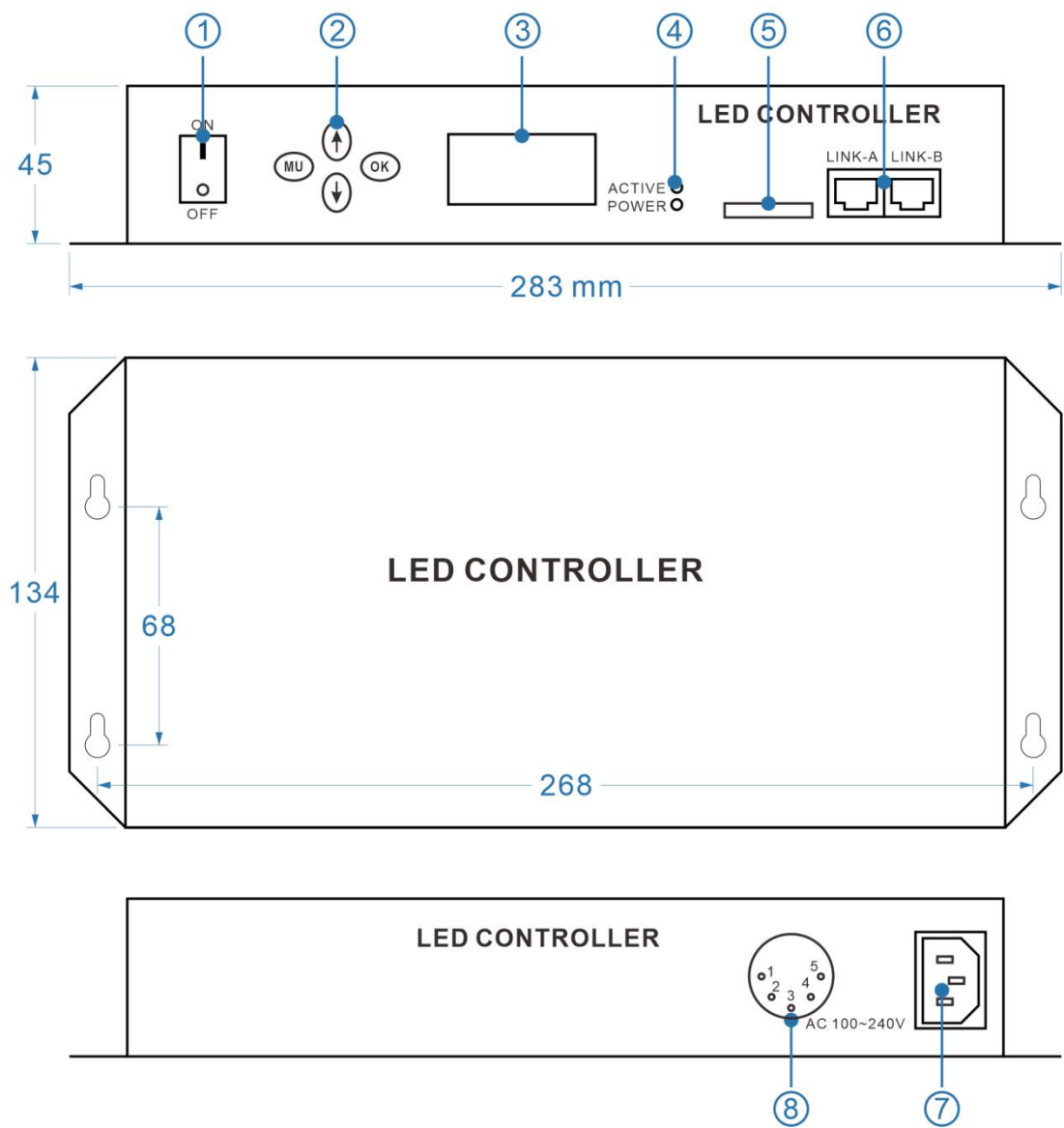
| ① ON/OFF | ② Button | ③ LCD | ④ LED |
| ⑤ SD Card | ⑥ LAN | ⑦ Power | ⑧ DMX IN |

4. Control buttons

MENU	Confirm	UP	Down

## 5. Live Control

Under Live control: connecting sub-controllers to a computer via Ethernet cable. Use PC software to perform layout configuration, address programming, fixture testing, and real-time preview of lighting scenes & animations.
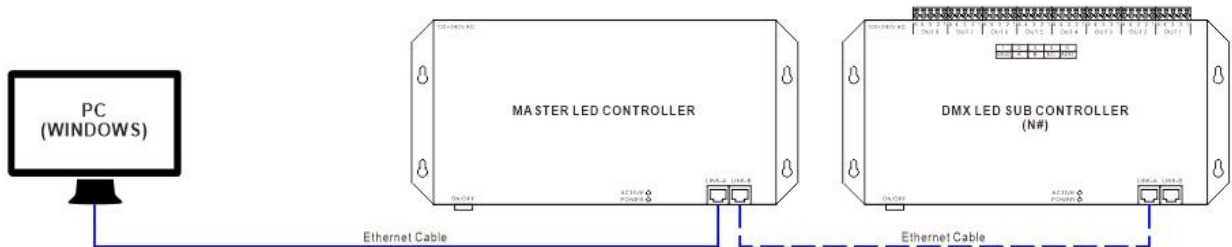

6. Stand Alone

Under stand control: Export lighting effects to an SD card. By playing through the main controller, automatic operation of the lighting program can be achieved, and manual switching, DMX controller switching, UDP central control and other functions can be performed. If a dedicated controller is used, wireless synchronous control can also be achieved between multiple buildings, eliminating the problem of long-distance cables.
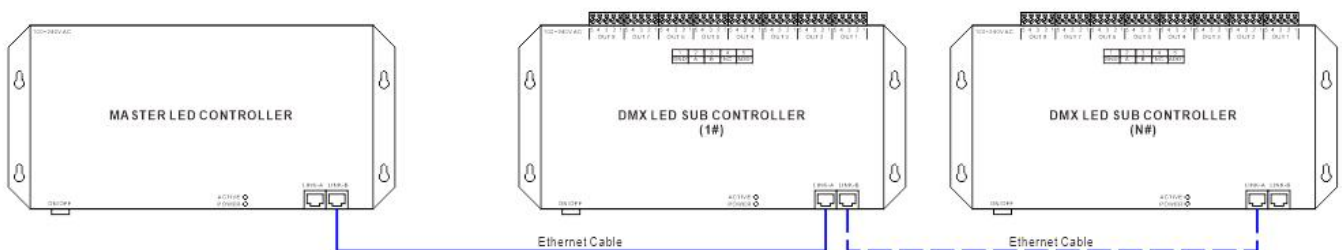
7. External control

Under external control: You can switch the program, adjust brightness, color, and change speed of program through DMX controller, RS485, or MODBUS protocol. The controller has multiple calling methods, which can call all programs through one channel or correspond to one program through one channel, making it flexible and convenient.
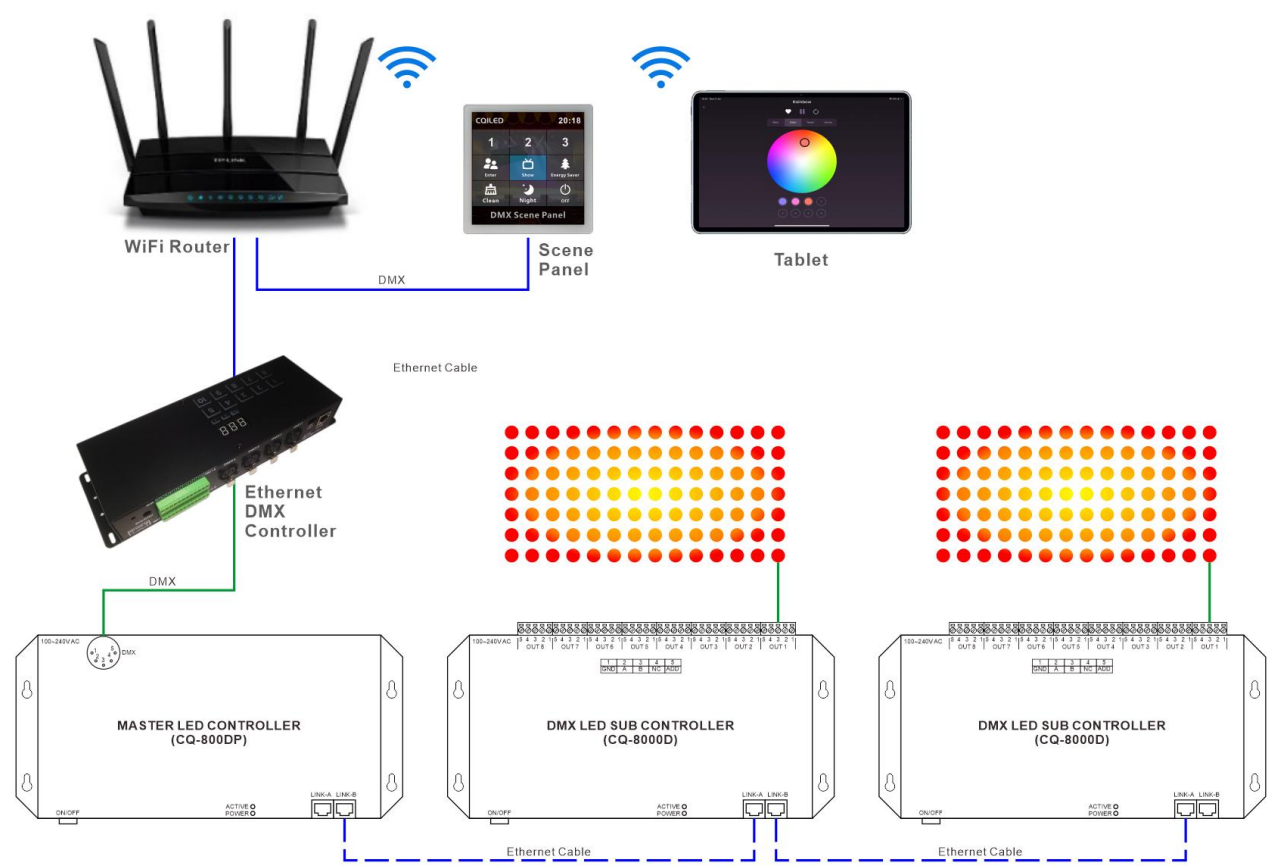
8. DMX Channel

Channel	Content	DMX Value	Description
1	Speed Adjustment	000-128	Slow to Fast
		129-255	Fast to Slow
2	Brightness Adjustment	000-255	Total dimming
3	Color Adjustment	000-255	Red
4	Color Adjustment	000-255	Green
5	Color Adjustment	000-255	Blue
6	Color Adjustment	000-255	White
7	Program Scene	0-255	Scene 1
8		0-255	Scene 2
9		0-255	Scene 3
10		0-255	Scene 4

11	0-255	Scene 5
12	0-255	Scene 6
13	0-255	Scene 7
………	………	99 Scenes Max.

9. Setup Interface

On this interface, press OK to access the Control Panel setup interface. Use the **"+"** and **"-"** buttons sequentially to navigate through the adjustment menus, as shown in the diagram below:

—MENU:6—   ⟵ MENU NO.: 6
*KongTai   ⟵ Controller Mode
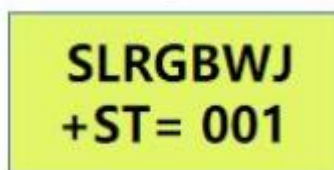
SLRGBWJ   ⟵ 6 channel +Multi-Channel Program Mode
+ST= 001   ⟵ Starting DMX Channel

10. Notice

1. Computer, master controller, sub-controller, it is recommended to use more than Cat.5 network cable, and use 568B line sequence connection (orange, orange, green, blue, blue, green, brown, brown);

2. When the distance between the controller output port and the LED is too far, it is recommended to use the DMX cables;

3. When using Cat. 5 network cables as DMX signal lines, the recommended order is: orange-white (A / DMX +), orange (B / DMX -), brown-white / brown (GND), green (ADD);

4. Do not use a set of twisted pair wires to transmit a signal, for example, the orange-white/orange set of lines, using DMX +, or DMX -;

5. If necessary, the end of the LEDs can be added to a 120Ω terminal resistance (A and B of the signal line at the end of the LEDs);

6. The controller adopts the metal housing, the rated voltage is 100~240V AC, must ensure that the controller wire and the metal housing are effectively grounded;