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# YC-3000A Controller Instruction

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V1.3



**\*Support chips: (will more powerful than below support)**

Support chips Max. support light Reamrks

International standard DMX512 (like: UCS512, SM512, TM512, GS512 etc) 4096 pixels

Suggest to carry 2400 pixels

UCS19\*\*, ucs29\*\*, ucs89\*\*, ucs1603, ucs5603(UCS full series TTL/SPI signal IC) 6144 pixels

Suggest to carry 4096 pixels

SM16703,09,12,SM16716,16726(SM full series TTL/SPI signal IC) 6144 pixels ——

TM18\*\* series, TM19\*\* series 6144 pixels ——

WS28\*\*(WS full series TTL/SPI signal IC) 6144 pixels ——

GS8205,8206,8208 6144 pixels ——

P9813,9823,9883 6144 pixels ——

APA102 6144 pixels ——

SK6812 6144 pixels ——

MY9231 6144 pixels ——

GW6205 6144 pixels ——

INK1003 6144 pixels ——

LX1003,1103,1203 etc 6144 pixels ——

## Functional Overview

YC-3000A control system is based on the Ethernet Art-net protocol to achieve communication transmission, and the upper computer soft send multi-channel data in the form of DMX512 protocol sent to SPI and DMX lamps.

YC-3000A Control System Adopts High-Performance FPGA processor, data processing is efficient and stable, follows standard Art-net protocol, provides two RJ45 network interfaces, with other conventional network equipment, can achieve a variety of network topology.

YC-3000A provides eight standard DMX512 data output ports, a total of 8,680 data output and support for extended protocol, Art-net protocol-compatible lighting control software, it is widely used in LED lattice and stage lighting control system which needs a lot of DMX512 data. It is often used in TV station, stage performance and so on.

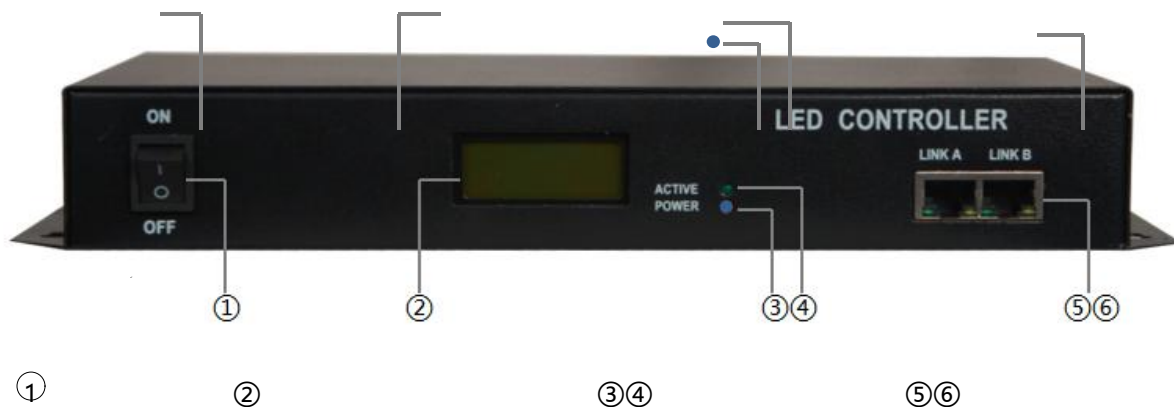
### I、System characteristics:

1. Input Art-net Protocol, based on Ethernet control protocol, to achieve lighting control;
2. The controller output supports the standard USITT DMX512/1990 and SPI General and extended protocols;
3. Users can set up two different IP addresses;
4. Different network segments can be set to avoid the interference of multiple groups of Artnet data in the same network
5. Accurate Gamma Correction Algorithm, more in line with the human visual sensitivity, display color more fully, rich;
6. Maximum support 120 frame change frequency to ensure high-definition screen display and 3D display requirements;
7. Using Ethernet interface and UDP network protocol transmission stability, the maximum transmission distance of 100 meters;
8. The LCD display module displays the controller parameters and status in time
7. Dual network interface, can realize the cascade between the controllers;
10. 8-port output, single-port Output Standard 512 channels, extended protocol with load point number by customers according to the characteristics of the Chip self-test;
11. Kilobyte adaptive or mandatory kilobyte can be set, to ensure that the large points of the project more stable;

### Specifications and basic parameters of controller

## I、Controller Appearance

YC-3000A Front View:



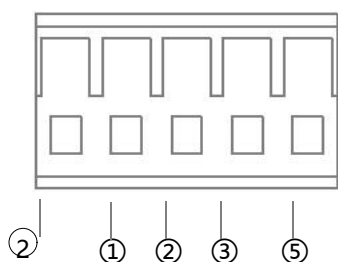
YC-3000A Rear View:



- 1. Power Switch    2. LCD display    3. Power/Communication indicator    4. Working Light
- 5/6. Adaptive Network Interface    7. Output Port    8. Power interface

## II、Output Port Definition

The YC-3000A controller uses 8pcs 3pin terminals to output signal. The 3Pin terminals are sorted from left to right, as shown below:

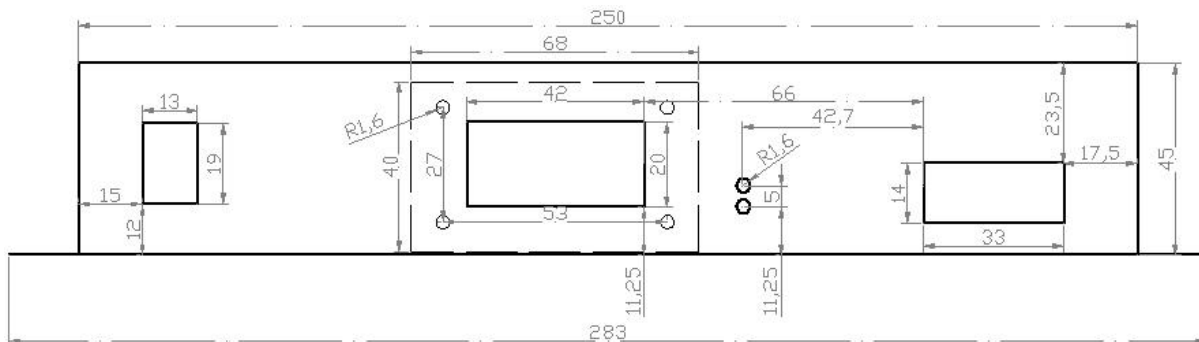


	①	②	③	④	⑤
TTL 信号	地	数据	锁存	时钟	使能
	GND	DATA	LE	CLK	OE
差分信号	地	数据+	数据-	时钟+	时钟-
	GND	A1	B1	A2	B2

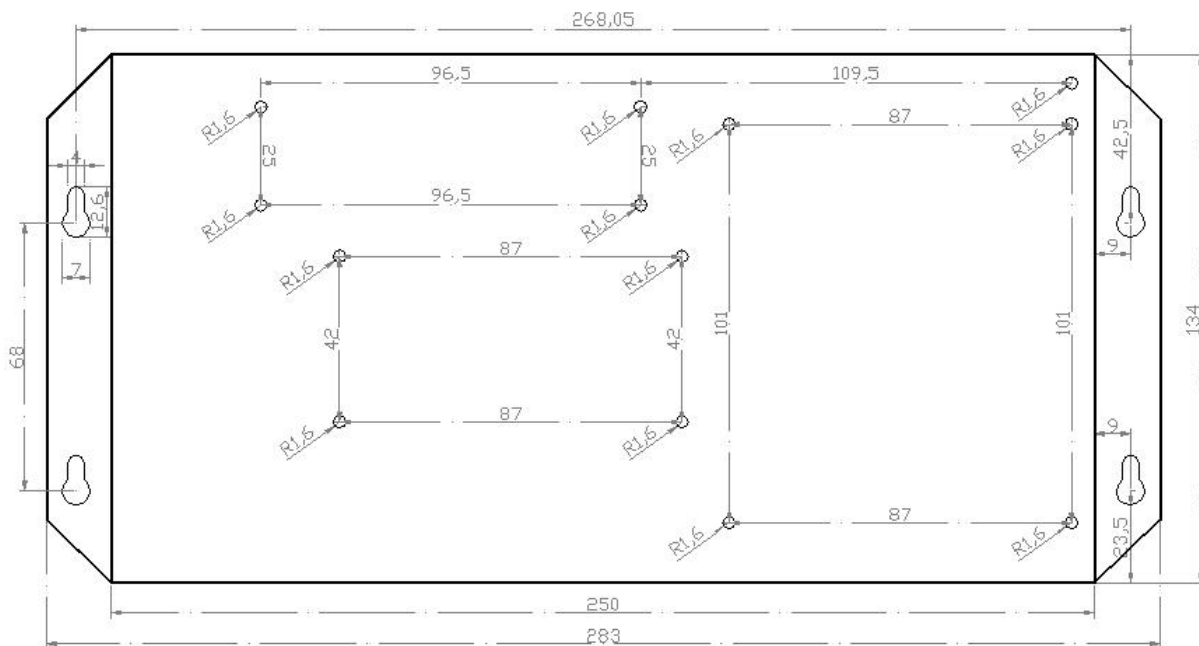
Note: ④ and ⑤ is the fixed screw hole position of 3pin terminal, not signal terminal.

### III、 Three-view dimension drawing of controller

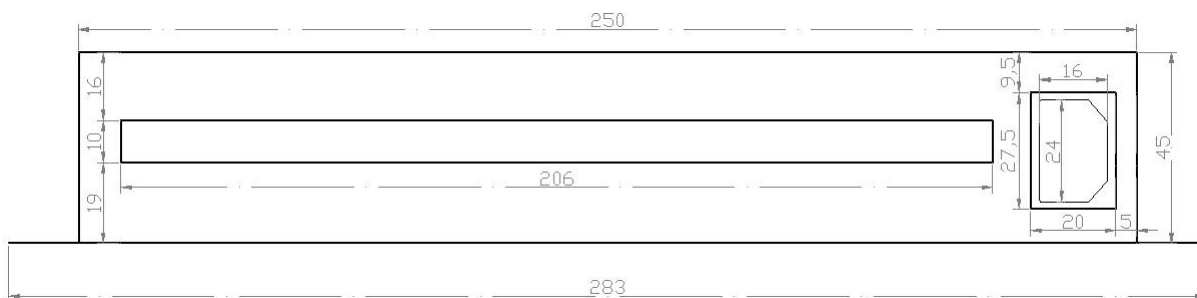
YC-3000A Front View



YC-3000A Vertical View



YC-3000ARear View



Note: The dimensions in the above three views are (mm).

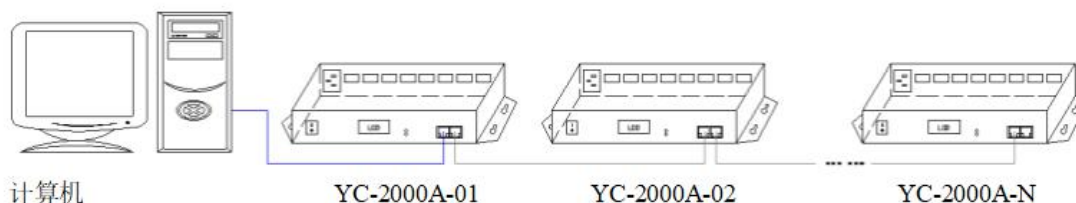
**IV、 Basic parameter list of controller:**

<b>Rated Voltage</b>	AC 100V ~ 240V
<b>Rated Power</b>	15W
<b>Length</b>	283mm
<b>Width</b>	134mm
<b>Height</b>	45mm
<b>Fixed Hole Spacing</b>	268mm; 68 mm
<b>Standard Attachment</b>	AC Power Line×1

**Controller Installation Application**

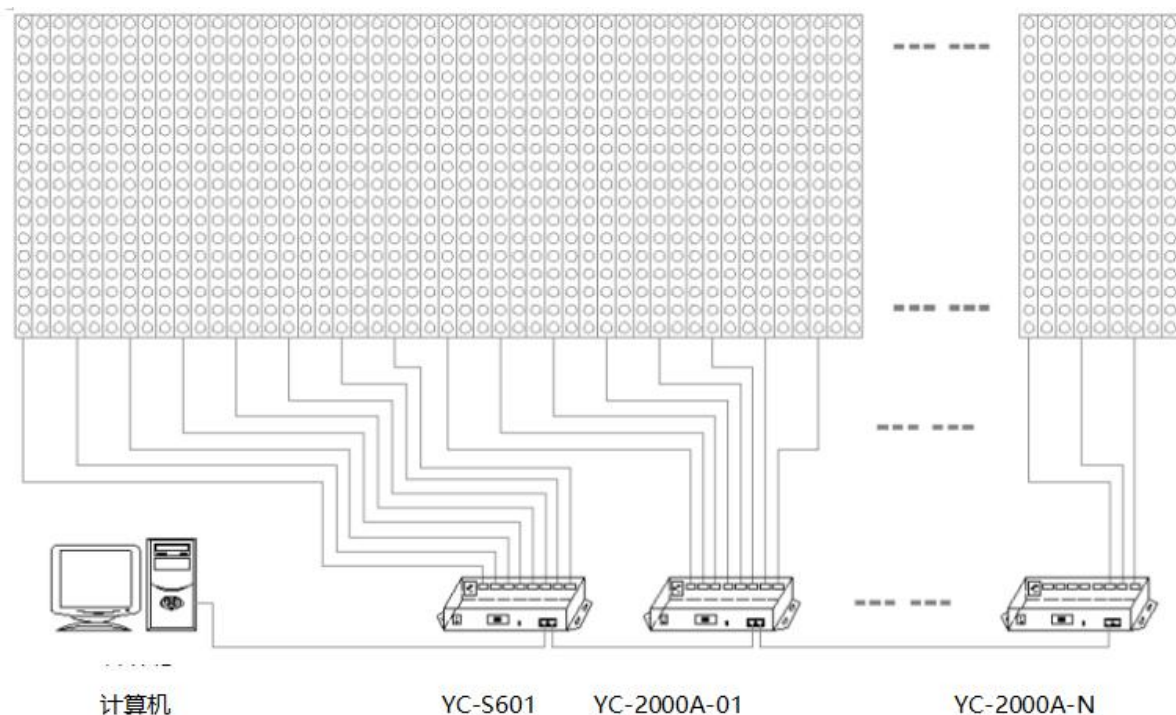
**① On-line mode (Connected to PC)**

The YC-3000A controller connects to the computer's Ethernet port, As shown in figure:



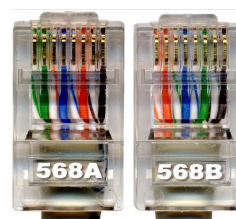
**V、 Project case description and schematic diagram**

Take the DOT Matrix screen of DMX512 as an example, using A18D controller, as shown in figure: Width 96 points, high 18 points, the wiring is arranged in vertical s type, the controller controls 3 column point light source at each output port, 32 DMX512 are needed Interface. The following diagram is an example:



**matters need attention**

**i .Application points of ultra-five twisted pair wires**



568B: Orange White, Orange, Green White, Blue, Blue White, Green, Brown White, Brown.

568A: Green White, Green, Orange White, Blue, Blue White, Orange, Brown White, Brown.

The Controller and the off-line master control and the switch are preferably interleaved, I. E. 568B at one end and 568A at the other. Any of the above equipment and computer

network lines between the straight line, that is, both ends of 568B or 568A, do not define their own straight line sequence.

## **ii、Wiring and connection from luminaire to controller**

1. If the distance between the controller output port and the lamp is too far, it is recommended to use 485 special line or more than five kinds of screen wire connection.

The best connection is: Orange-A; Orange White-B; other connection is GND .

2. Add a 120R terminal resistance at the end of each signal between A and B.

3. Never use two twisted wires to connect a signal, such as orange and orange white, to A or B.

## **iii、Application Points of Controller Grounding**

YC-3000A controller adopts metal Shell, rated power supply voltage is AC100V-240V, so it must ensure controller equipment effectively grounded and equipment metal box effectively grounded.

Due to the exposed metal contact surface on the output port of the controller signal, the output port GND signal must be effectively grounded in accordance with the safety regulations in order to ensure the safe use of the operator.