



HD-L308 Controller Manual

Version:V2.0

Shenzhen Hongda United Technology Co.,Ltd.

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Overview

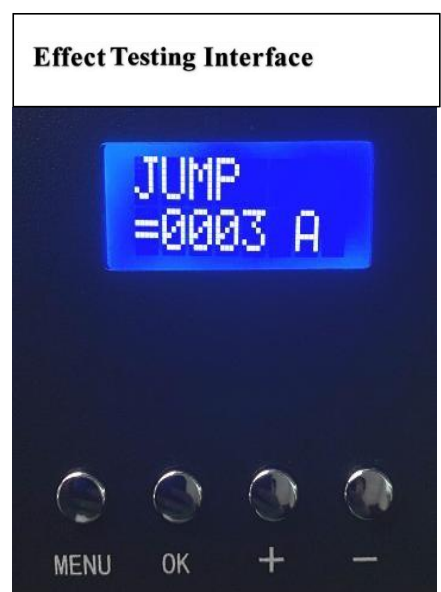
I. Features

1. Based on Art-Net protocol-2016 and Ethernet control protocol to control all DMX512 signal lamps.
2. Support Optical Fiber Transmitting and Remote Online control and SD card Offline control;
3. HD-L308 Standard USITT DMX512/1990 General Protocol and Extended Protocol;
4. Supports Mixed use of Different Types of Lamps and Lamps of Different Protocols, Controller Signal Output ADRI/PO Terminal Can Achieve DMX512 Channel Automatic Addressing, Support UCS512, SM16703,,HI512D, MY7221, WS2821 and Other Driver Chips;
5. All controller can be set different IP address and different network segments, to avoid multiple groups of Art-net data interfering with each other in the same network;
6. SD Card Storage, Can Support 64G, Can preset 99 Program Files;
7. Support R,RB,RGB,RGBW,RGBWY, and Multi-Color Mixing Control;
8. Support 32-65536 Grayscale 16Bit, Support 262144 Grayscale, Restore image Details;
9. Accurate Gamma Correction Algorithm, in Line With Human Visual Sense;
10. Support Opening and Closing the Function of Writing DMX Addresses and Parameters;
11. Using Ethernet Interface and UDP Protocol, The Distance is 100 Meters;
12. Using Single Mode Optic Fiber Connection, The Distance is 5 Kilometers;
13. LCD Display Module Displays Controller Parameters and Status in Time;
14. Two RJ45 Ports, Support Mixed Cascading; Automatic Software Display Status;
15. Two Optic Ports with SC connector, Supports long-distance transmission over 100 meters;
16. 8-Port OutPut DMX512 Single 512/1024/1536 Channels;
17. 8-Port OutPut TTL/SPI Single Max. at 3072 Channels, it needs to be tested by Itself;
18. he built-in animation test program may help customer to debug and apply in project;
19. Equipment Network Port, Port OutPut, Surge Protection: 1.5KV;
20. Support Severe Working Environment -40°C -70°C, Normal Operation Without Failure.

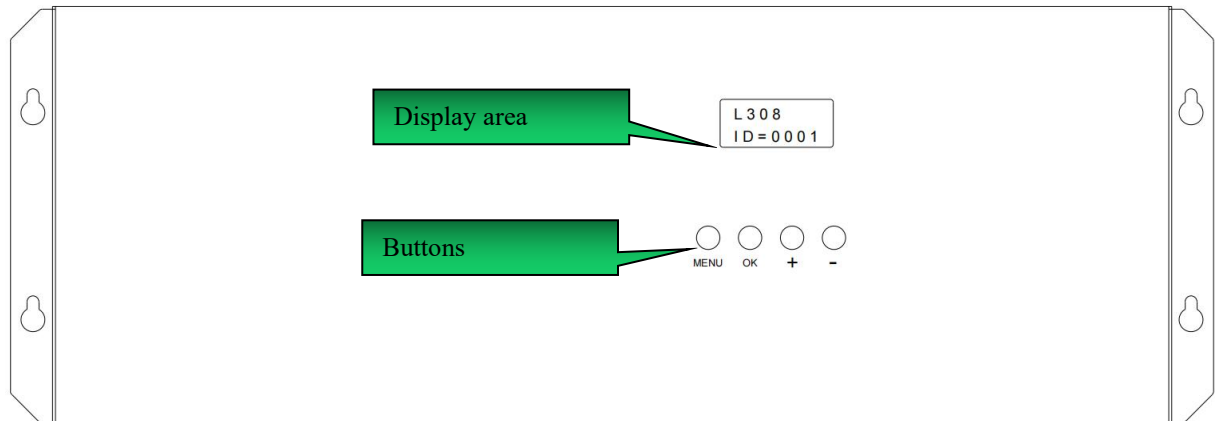
Specifications and Parameters

I. Controller Appearance

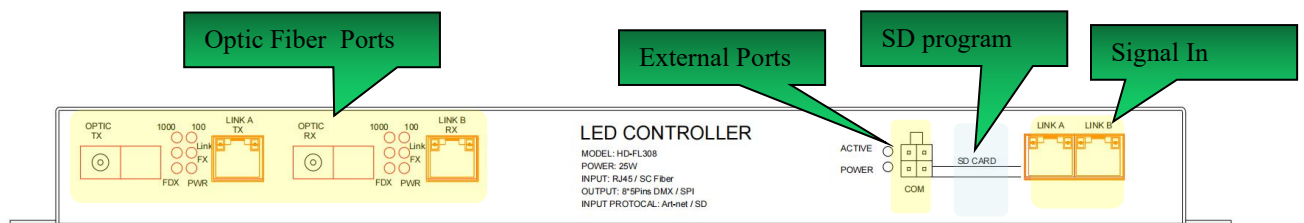
HD-L308 Image view:



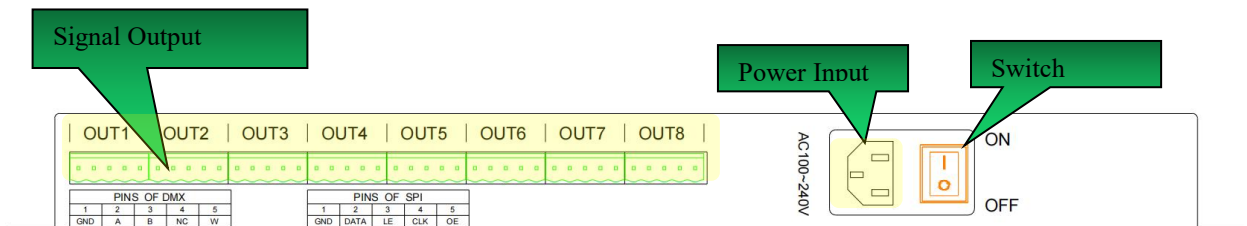
II. Specifications and Parameters



Top View



Front View



Rear View

III. port definition

Port Information		
Type	Qty	Definitions
LINK A	1	Network signal in/out ports,and can be used to connect PC control
LINK B	1	Network signal in/out ports,and can be used to connect PC control
COM	1	Extended Port
AC100~240V	1	AC power input
SIGNAL OUT	8	Signal output, Support DMX512/SPI/TTL
Optic Tx	1	SC fiber connector, signal sent out to next subcontroller
Optic Rx	1	SC fiber connector,optic signal from last subcontroller
LINK A Tx	1	Network signal in from LINK A
LINK B Rx	1	Network signal out to LINK B
Other Information		
Type	Qty	Definitions
MENU	1	Function menu
OK	1	OK button
+	1	Plus button
-	1	Minus button
LCD display	1	LCD display
SD CARD	1	SD memory card for offline mode

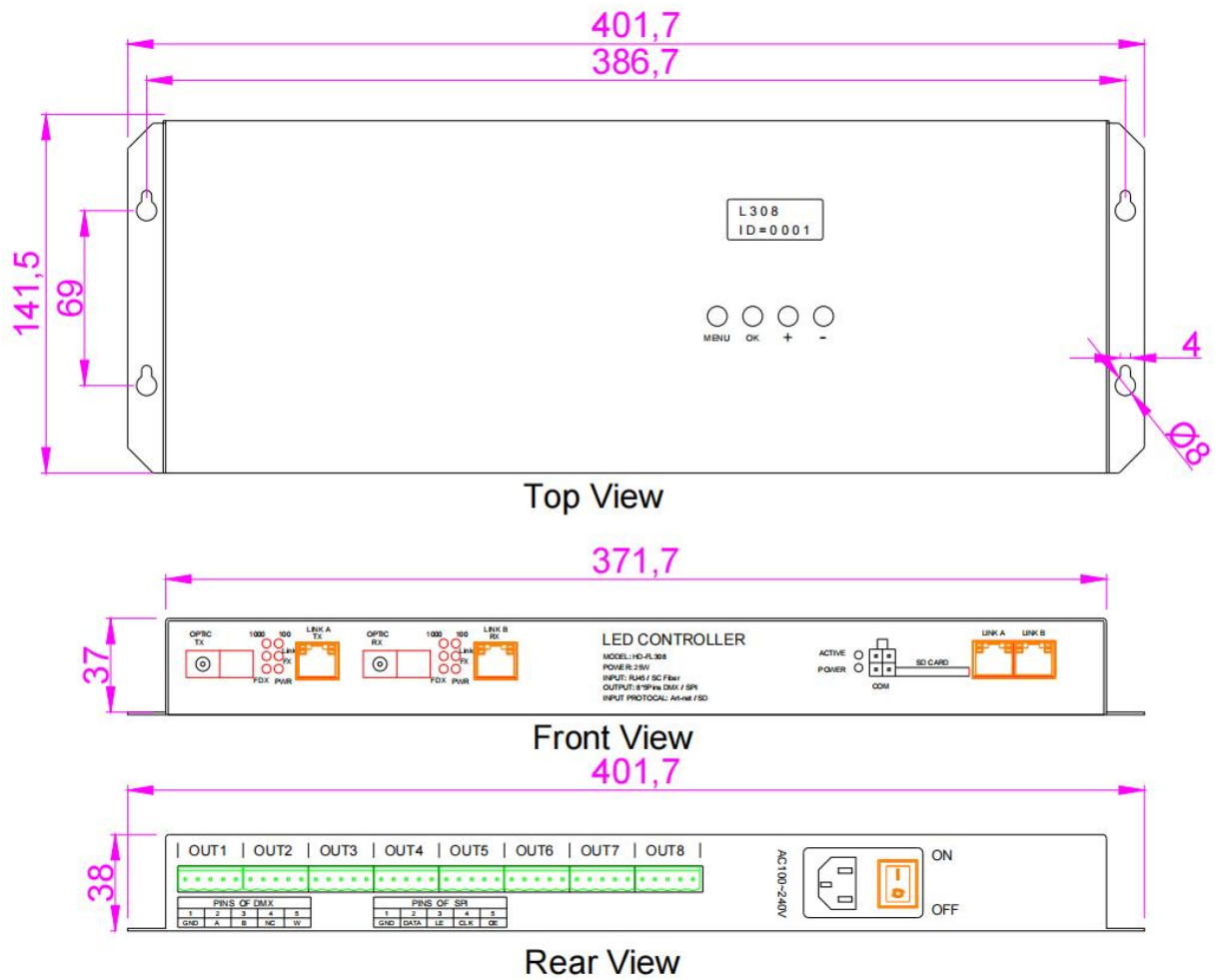
5Pin Terminals Sort Sequentially From Left to Right:					
Port	1	2	3	4	5
SPI/TTL	GND	DATA	LE	CLK	OE
DMX	GND	A	B	NC	W

Indicator Light		
Type	Qty	Definitions
POWER	1	Power indicator is green color. When the power supply is properly connected, the POWER light is always on; When the power supply is not connected correctly, the POWER light is off.
ACTIVE	1	Status indicator is yellow color. When the controller has a signal as input, the ACTIVE light flashes slowly; When there is no signal input, the ACTIVE light is always on; In case of hardware failure, the ACTIVE light is off.
OPTIC POWER	2	Power indicator is green color. When the power supply is properly connected, the POWER light is always on; When the power supply is not connected correctly, the POWER light is off.
OPTIC FDX	2	If Light on, received the optic signal.
OPTIC LINK	2	Active status display of electrical interface link “Blink” indicates packet goes through TP
OPTIC Fx	2	Active status display of fiber interface link “Blink” indicates packet goes through FX
OPTIC 1000	2	If Light on, Rate of fiber interface is 1000Mbps
OPTIC 100	2	If Light on, Rate of fiber interface is 100Mbps

IV. Basic Parameter Table

Product Name	Lighting Controller
Product Model	HD-L308
Rated Voltage	AC 100V ~ 240V±15%V 50/60Hz
Rated Power	25W
Protocol	RJ45 X 2PCS, Standard Art-net Protocol
Network Rate	100MB/1000MB Adaptive
Optic Protocol	SM Fiber with SC connector,distance less than 5km
OutPut	8-Port OutPut (DMX512 and Extended Protocol, TTL/SPI Protocol)
Relative Humidity	About 95% (Non-Condensing)
Temperature	-40°C ~ 70°C;
Size	L402mm×W142Wmm×H38mm
Protection Class	IP20
Installation Method	Fixed Hole Installation Method (See below Drawing)
Weight	1.7kg
Shell Material	Iron (dusting process)
Accessories	Power Cord x1 Screwdriver x1 RJ45 Connectors x2 Optic Fiber SC Connector x2

V. Controller Dimension



Install and Use

I. Online mode (Connected With The Computer)

HD-L308 Controllerd Connect With The Computer Ethernet Port,as Shown Below :



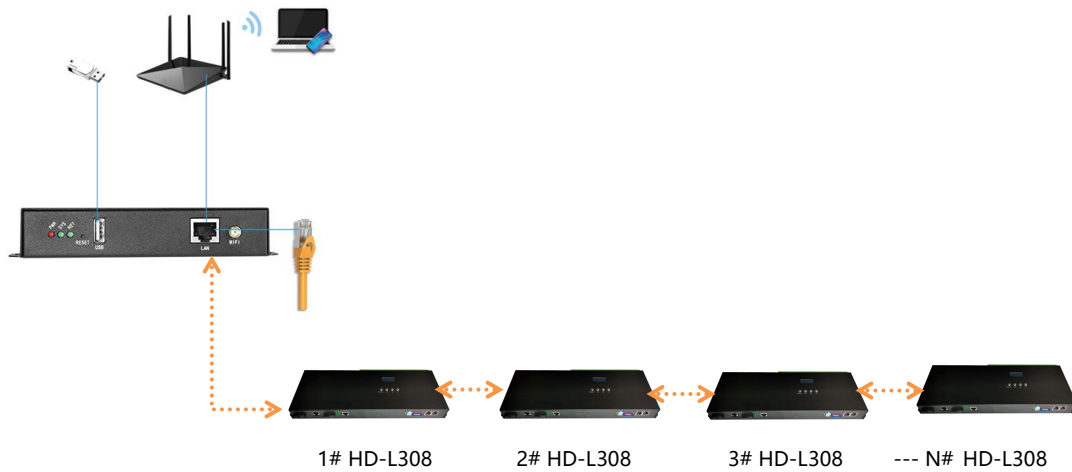
II. Offline Mode

HD-L308 Connect With the Offline Master Controller, as Shown Below:



III. Smart Master with Cloudy Mode

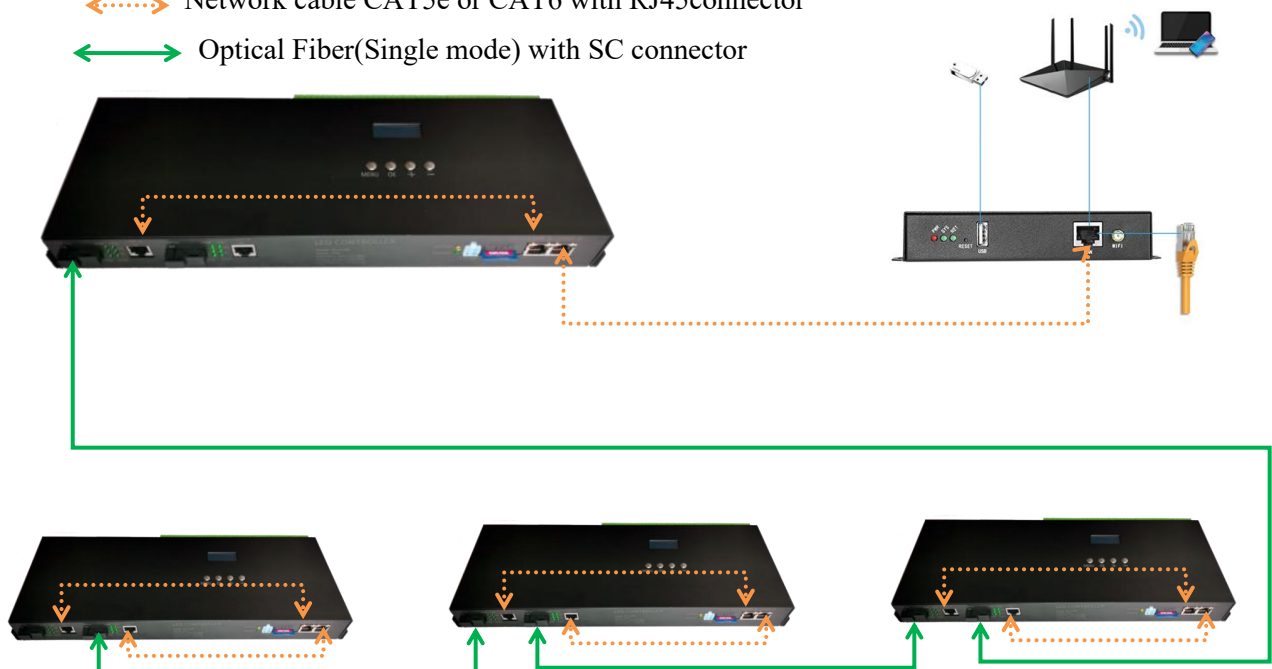
Smart Master Mode Connection, Shown As Below:



IV. Long Distance with Optical Fiber Mode

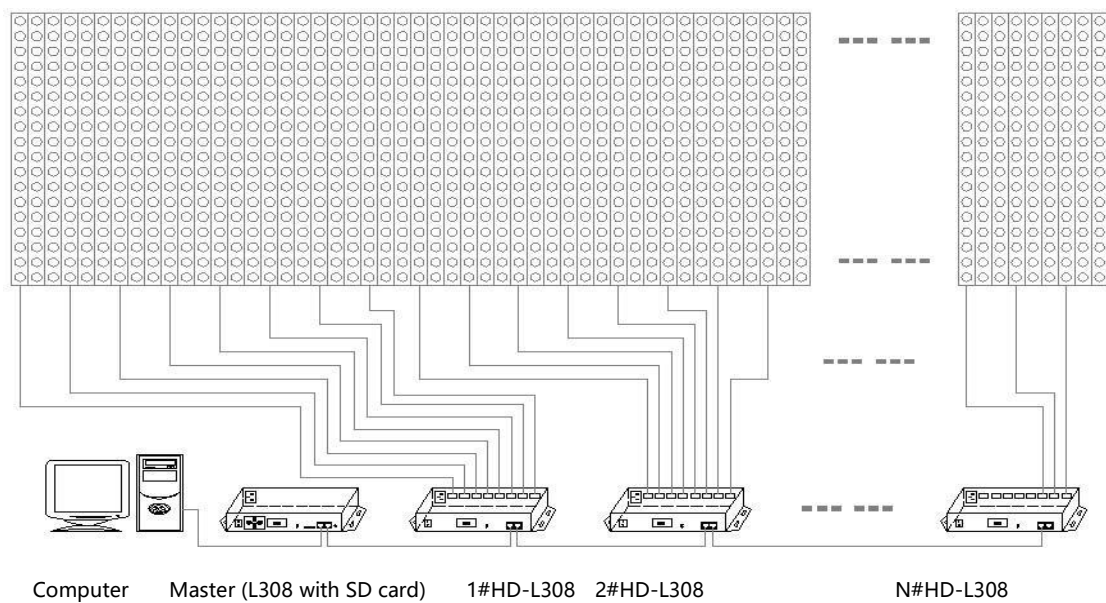
↔ Network cable CAT5e or CAT6 with RJ45connector

↔ Optical Fiber(Single mode) with SC connector



V. Engineering Case Description and Sketch Map

For Example in DMX512 Point Light Source Composed of 96 Points \times 18 Dots Matrix Screen, Use HD-L308 Controller, The Wiring is Arranged in The Vertical S Type, Controller for Each OutPut Port to Control 3 lines Point Light Source, Totally Need of 32 DMX512 output ports The Following Diagram for Example :



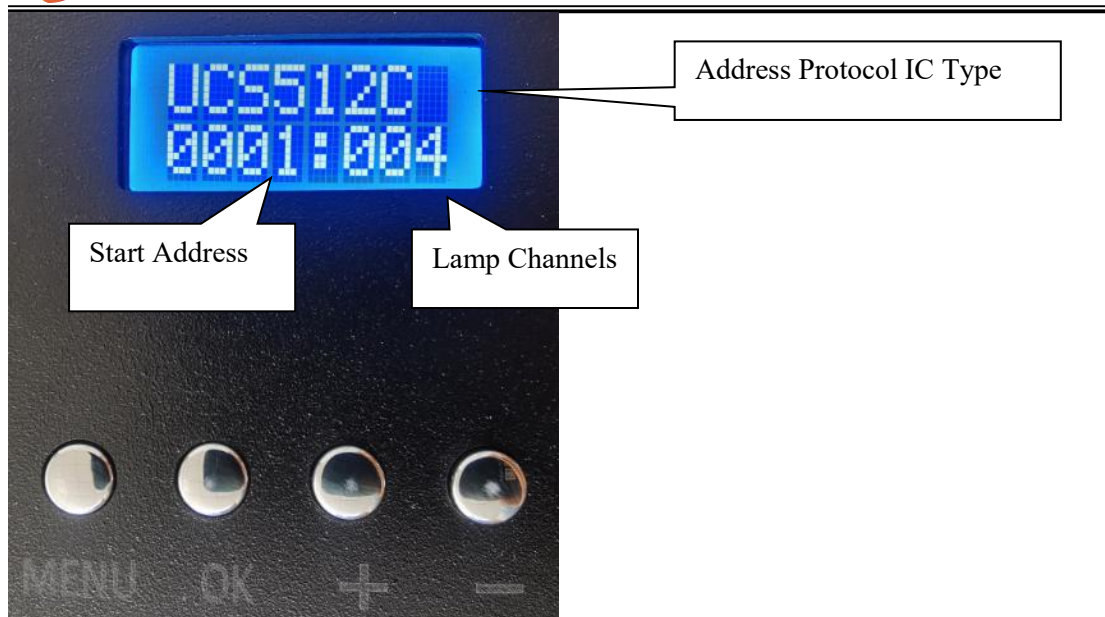
Display Description

1. LCD Main interface After HD-L308 is Turned on

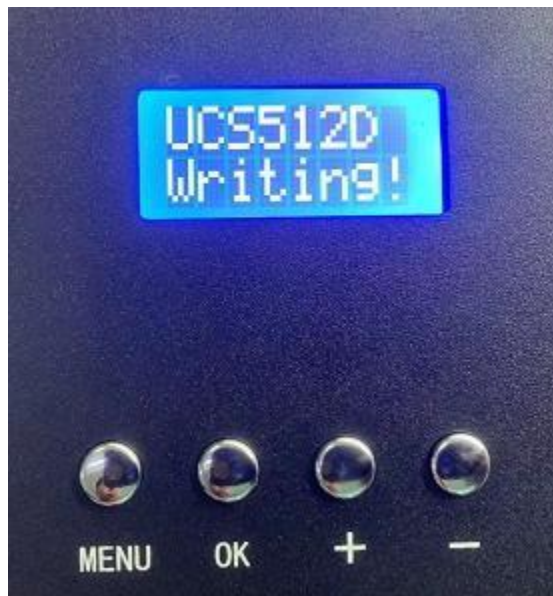


2. Press "MENU" button , go to addressing writing interface , Press "OK" button to shift the sub menu(Cursor blinking that mean it is under edit model.) , Press "+" "-" button to change the value . show as below:

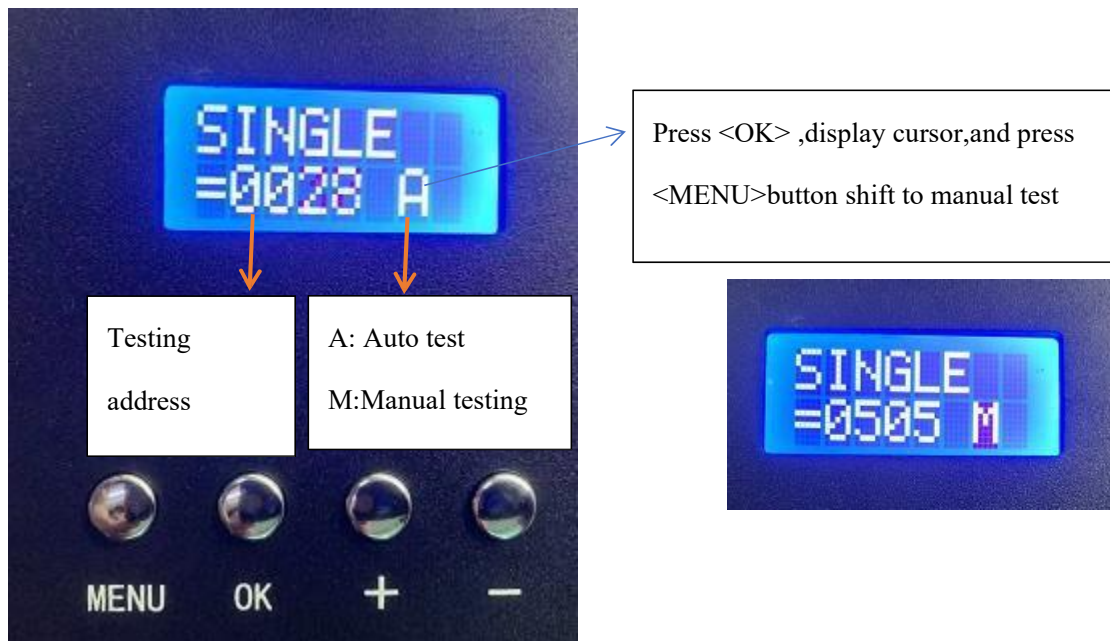




3. After IC type select ,Start address and Channels, It need press “OK” button and hold more than 3seconds to execute DMX address writing, show as below :



4. After addressing writing, Press 《MENU》 button shift to address testing interface, show as blow:



5. Press "OK" button, shift cursor to A, and then change A to M, and press the number, and then press "+", "-" to test the lamp address:



6. Press "OK" shift cursor to SINGLE, press " " shift cursor to "SINGLE", Press « + » or « - » to test integrated program, such as COLORFUL、SINGLE、JUMP、GRADIENT、TUNNEL、GRAY, Show as below:



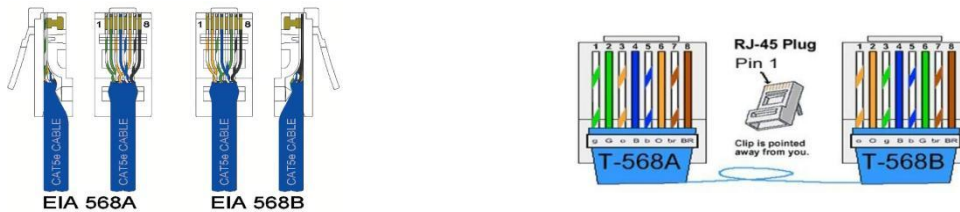


Precautions

I. Cat5e Twisted Pair Application Notes

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



Cable between controllers use [Cross] : One end is 568B, and One end is 568A.

Cable between controller and switch use [Cross]: One end is 568B, and One end is 568A.

Cable (Controller or Switch)and Computer use [Straight]: Two end is 568B, or Two end is 568A.

Note: Follow above Requirements, Do Not Define The Network Cable Sequence by yourself.

II. Wire and connecting method from lights to controller

1. If The Distance Between The Signal OutPut Port of controller and The Lamp is Too Far, it Can be Connected With RS485 Dedicated Line or a Shielded Network Cable(Cat5e or Cat6) .

The Network Cable Connection DMX Method is:

- *Network Cable Orange Line: Connect to A+ (Signal Positive)
- *Network Cable Orange and White Line: Connect B- (Signal Negative);
- *Network Cable Green Line: Connect to W (Write address port)

Note: All other Unused Network Cables Must be Connected to GND (Ground)

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2. At The end of Each Road Signal That is Between A and B to Add a 120R Terminal Resistance.
 3. Do Not Connect The Two Wires That are Intertwined to Receive The Signal, Such as Orange and Orange White Connect to A+or B- at Same Time.

III. Controller Connect to Ground Application Notes

HD-L308 Controller Using Metal case, Rated Supply Voltage is AC100V-240V, Therefore, it is Necessary to Ensure The Effective Grounding of The Controller Equipment and The Effective Grounding of The Metal Outer Box .

And the OutPut Port of The Controller is Exposed to The Metal Contact Surface, Therefore, According to The Requirements of Safety Regulations, to Ensure Safe Use of The Operator, Signal OutPut Port GND Signal Must be Effectively Grounded.