# M-D8 Sub-controller User Manual




## 1. System Features

1. Controls fixtures driven by a wide range of driver chips and supports the extended DMX512 protocol
2. Supports online addressing of DMX512 fixtures
3. Supports online firmware upgrades
4. The LCD module shows controller parameters and status in real time
5. Independent brightness control for the three primary colors makes precise white balance adjustment simple and effective
6. Dual network ports allow controllers to be cascaded; indicator LEDs show the connection status directly

7. Eight output ports, each driving up to 1,024 pixels for DMX 512/TTL
8. Unidirectional 100 Mbps network output that connects to switches and fiber transceivers
9. Controllers can be cascaded through network cables, up to 255 units
10. Can play directly when connected to a PC, or be used with an M-C8 master controller or a cloud master controller
11. Ethernet ports and the UDP network protocol provide stable transmission over a maximum distance of 100 m

## 2. Design Philosophy

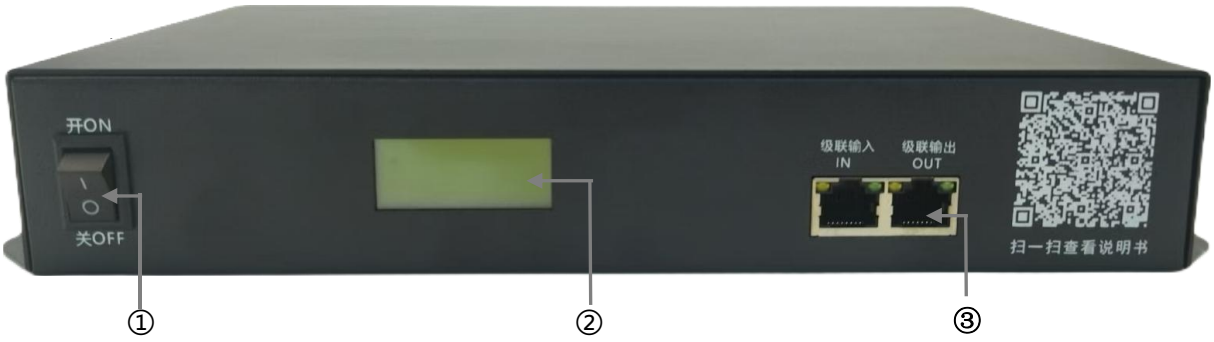
1. Four-color independent algorithm on the protocol side: energy-saving and environmentally friendly, with pure colors
2. Integrated synchronous and asynchronous control: online playback takes priority, and when the online signal is lost the controller switches automatically to offline effects, providing video source redundancy
3. Works with a cloud master controller and Internet-based control software for remote control
4. Solutions are available for every application scenario, and solutions for new application scenarios are continuously developed
5. Strong compatibility with fixture driver chips: compatible with all types of TTL and DMX512 chips, and compatibility data for new chips is updated promptly
6. Hardware and software are both developed in-house, secure and fully controllable; every product supports online or SD-card firmware updates, so incompatibility caused by version gaps within the same model never arises
7. All software interfaces support Chinese/English switching, and every operation has a QR-code video tutorial, making the system easy to use for customers at home and abroad
8. LOGO customization is available in our software, and the cloud service platform provides external secondary-development interfaces
9. Pin order can be modified for each individual fixture, so a single controller can drive fixtures with different pin orders while keeping colors synchronized under unified control

## 3. Basic Specifications

| | |
|---|---|
| Maximum pixels controlled | DMX 8*512/TTL 8*1024(RGB) |
| Gray scale | 32–65,536 levels |
| Companion software | SuperLed&SuperPlayer |
| Operating voltage | AC85-240V |
| Maximum power | 5W |
| Operating temperature | -40~85℃ |
| Dimensions | 286*155*45mm |
| Mounting hole spacing | 268mm；68 mm |
| Weight | 1.045kg |
| Accessories | Power plug, 1 m original network cable, screwdriver |

## 4. Controller Appearance

Front view:



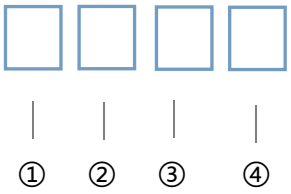

Rear view:



① Power switch ② LCD display ③ Cascade network ports ④ Output ports ⑤ Power socket

## 5. Output Port Definitions

The M-D8 controller outputs signals through eight 4-pin terminal connectors. The pins on each 4-pin connector are numbered from left to right, as shown below:

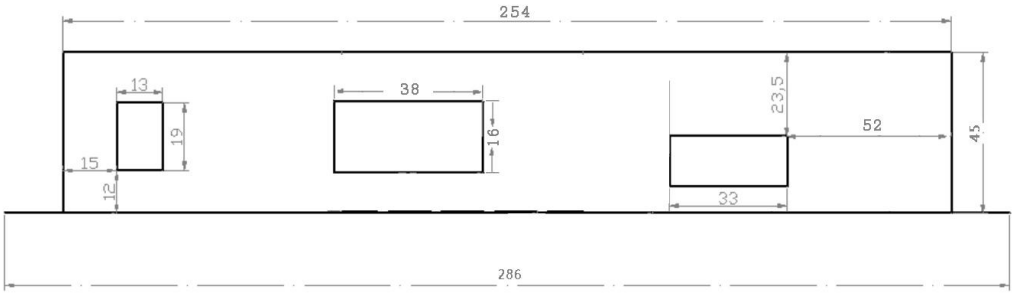



| | ① | ② | ③ | ④ |
|---|---|---|---|---|
| DMX signal | Ground | Signal + | Signal – | Address/Data |
| | GND | A | B | ADR/DAT |

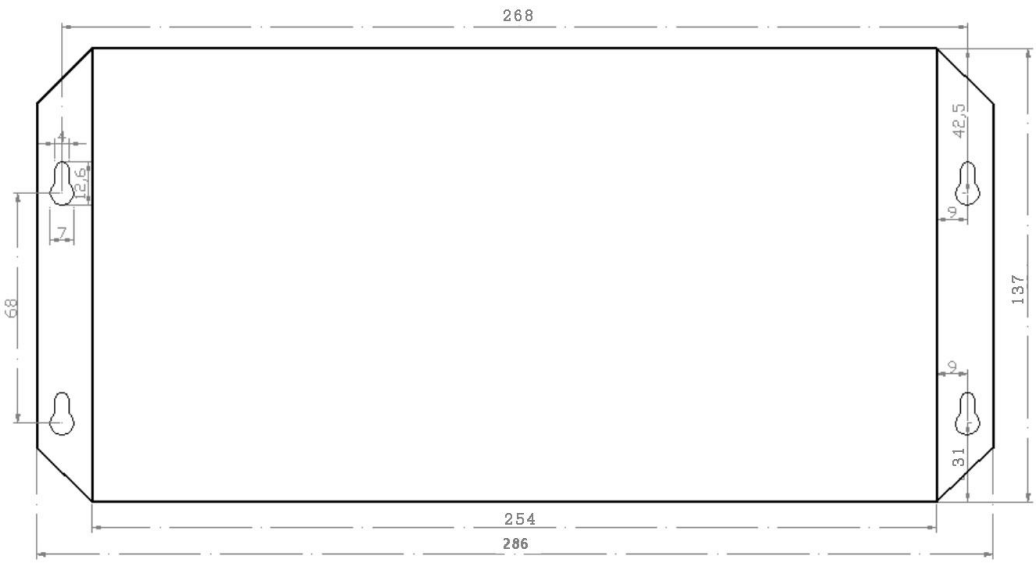
Note: pins ②③④ carry differential signals. When the addressing lines are not used for differential output, connect only ① and ④ (data).

## 6. Controller Dimension Drawing

Front view

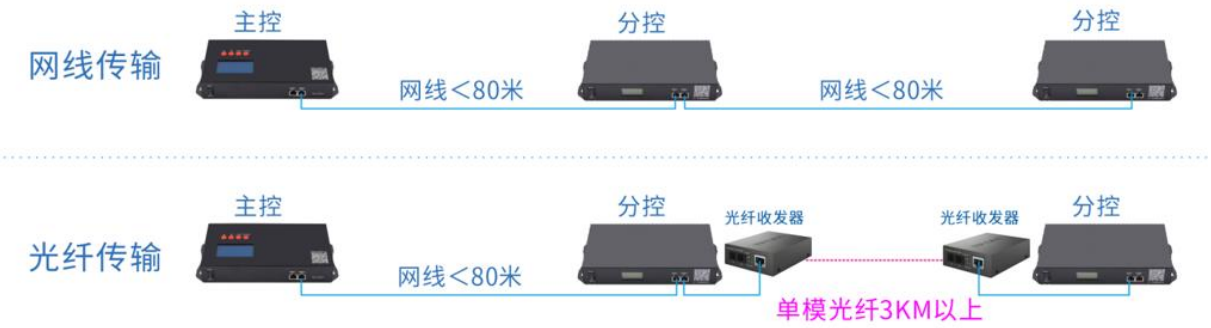



Top view



## 7. Controller Connections

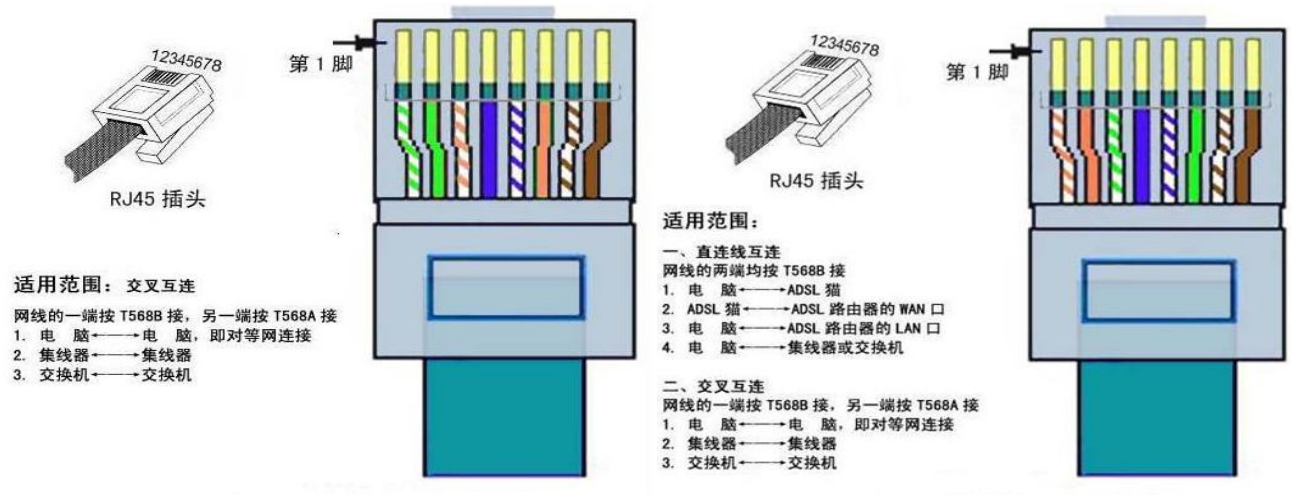
7.1 Master/sub-controller connection diagram:




7.2 Connection to a PC and master controller (the online signal takes priority; when it is absent the controller switches automatically to the offline signal), as shown below:




## 8. Network Cable Connector Assembly




Cable assembly: in practice there are two wiring methods (crossover and straight-through)

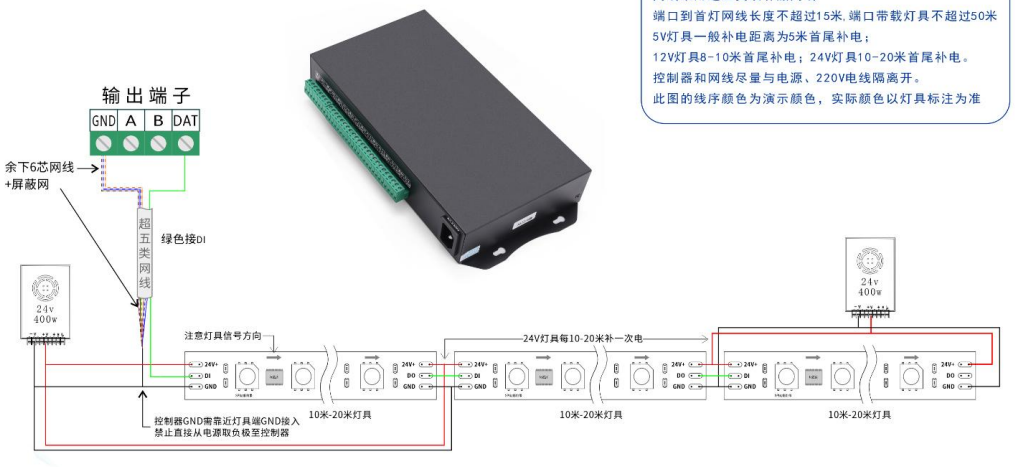
We use "straight-through" 568B wiring, i.e. both ends are terminated with the same pin order. The pin order is as follows:

1. White-orange 2. Orange 3. White-green 4. Blue 5. White-blue 6. Green 7. White-brown 8. Brown

# 9. Connecting the Controller to Fixtures

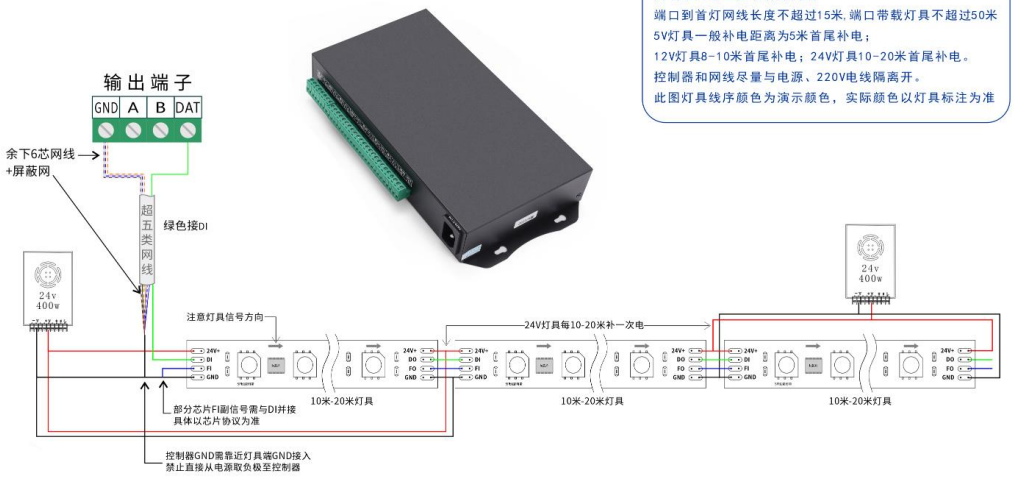
## M系列单线TTL/SPI接线图

注意事项：
网线采用超五类双屏蔽网线
端口到首灯网线长度不超过15米，端口带载灯具不超过50米
5V灯具一般补电距离为5米首尾补电；
12V灯具8-10米首尾补电；24V灯具10-20米首尾补电。
控制器和网线尽量与电源、220V电线隔离开。
此图的线序颜色为演示颜色，实际颜色以灯具标注为准




## M系列断点续传接线图

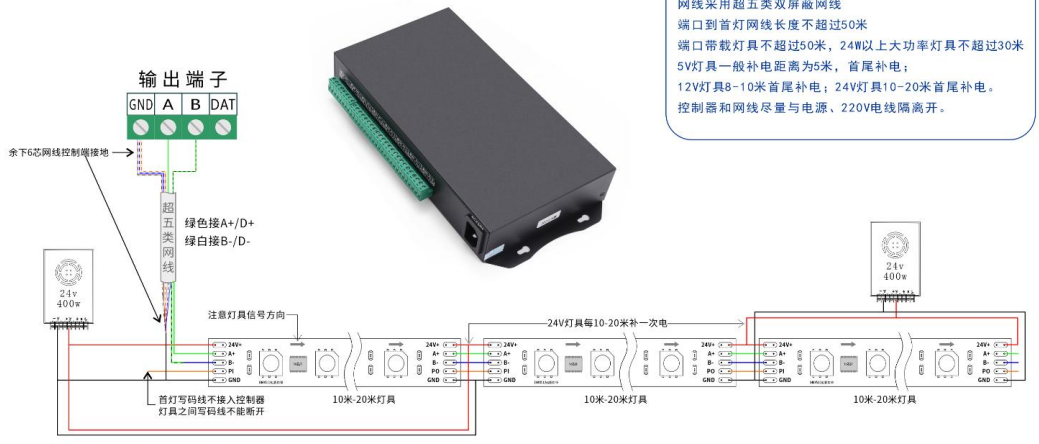
注意事项：
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端口到首灯网线长度不超过15米，端口带载灯具不超过50米
5V灯具一般补电距离为5米首尾补电；
12V灯具8-10米首尾补电；24V灯具10-20米首尾补电。
控制器和网线尽量与电源、220V电线隔离开。
此图灯具线序颜色为演示颜色，实际颜色以灯具标注为准




灯具线序颜色请参照灯具标签或询问制造厂家，此图仅为演示颜色。

## M系列五线512接线图

注意事项：
网线采用超五类双屏蔽网线
端口到首灯网线长度不超过50米
端口带载灯具不超过50米，24W以上大功率灯具不超过30米
5V灯具一般补电距离为5米，首尾补电；
12V灯具8-10米首尾补电；24V灯具10-20米首尾补电。
控制器和网线尽量与电源、220V电线隔离开。



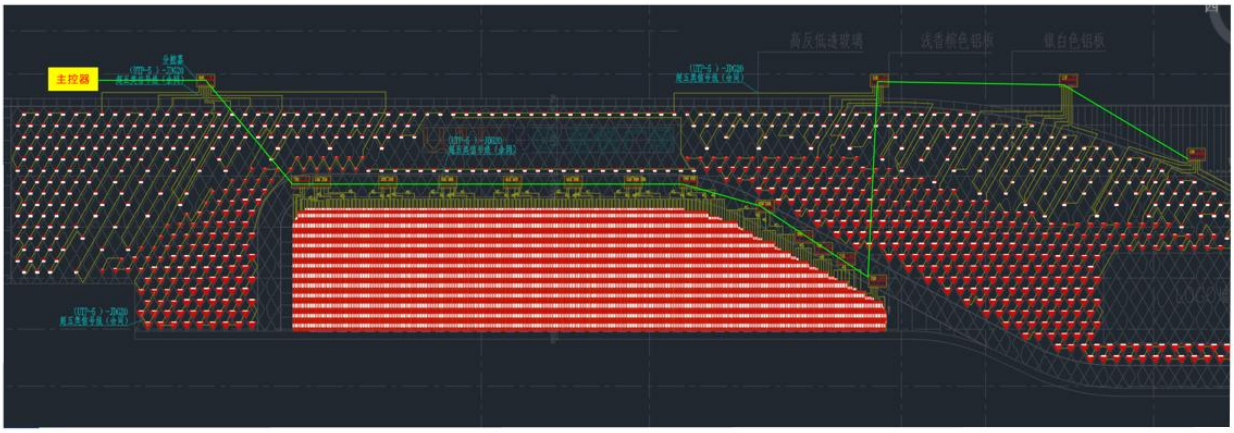

灯具线序颜色请参照灯具标签或询问制造厂家，此图仅为演示颜色。

## 10. Wiring Examples





效果展现




## 11. Control Distances for Standard Signals (for reference only; actual installation conditions prevail)

| Item | TTL | 4-wire 512 | 5-wire 512 |
|---|---|---|---|
| Distance from controller port to fixture | 15 m | 30 m | 50 m |
| Distance from controller to the last fixture | | 80 m | 120 m |
| Distance between fixtures | 3 m | 30 m | 30 m |
| Distance from controller to amplifier | 15 m | 35 m | 50 m |
| Distance between amplifier and fixture | --- | --- | --- |
| Distance between controllers | 80 m | | |

Note: if the distance between the PC and the controller, between the master and sub-controllers, or between sub-controllers exceeds the specified limits, the signal will be subject to interference and cannot be transmitted reliably.