MR-218DW Controller Instructions

V1.0

Functions overview

I. System Characteristics

1. Controller's output support standard USITT DMX512/1990 Universal Protocol and expand DMX512 Protocol.

2. Controller signal output ADRI/PO terminal can achieve DMX512 channel automatic addressing，Support DMX512AP-N / NB, UCS512, MY7221, WS2821 and other driver chips；

3. MR-218DW Controller addressing signal output compatible differential signals output，Improve the addressing signal transmission distance，in favor of the project application for long distance transmission and effective addressing；

4. Three-primary-color independent brightness control, which realize simple, effective and accurate adjustment of white balance.

5. Precise gamma correction algorithm. It better conforms to the visual photographic characteristics of the human body, and the display color is more sufficient and rich, so as to perfectly reflect the animation or video effects of the designer.

6. Support 120-frame frequency maximum, to guarantee demands for HD display and 3D display of the image;

7. Adopt Ethernet interface and UDP network protocol, to guarantee stable transmission, the maximum transmission distance is 100m.

8. LCD display module, to timely display the controller parameters and state.

9. Dual-network interface, which can realize cascade connection between controllers and automatic inspection of the controller, and the connection status is displayed

intuitively through the software.

10. 8-port output, single port output is standard 512-channel, expand protocol load points by client basis chip characteristics self-testing.

11. Support dual-way backup, the display will not be influenced if a controller is broken or the network cable is disconnected.

12. Can set self-adapting 1000M / 100M or forced 100M, to guarantee stability of large project.

II. Design concept

1. 1000Mbps/ 100Mbps optional: adapt to different project schemes；

2. Two-way redundancy of the system signal, doubled stability；

3. Four-color independent algorithm: energy-saving, environmental-friendly and with pure color；

4. Integrated synchronous and asynchronous control, online in priority, automatic switching to the offline effect without online signal, to realize video source backup；

5. Large independent development and design video edition, playing and wiring design software, stronger adaptability, more languages supporting and higher openness；

6. It is used in various shaped screens, multiple screens, building screen, pixel light screen and other complicated applications at home and abroad；

7. Support IP group function, and adopt switch parallel connection scheme: reduce system-level cascade chain length, and improve stability；

8. Add fiber optic conversion module located, Control system supports fiber-optic signal transmission；

9. Support wireless network transmission, wireless bridge connection and Internet

    remote control ;

10. With the Internet control software,Support Internet remote control ;

11. The system supports automatic, timed and holiday preset playing ;

12. Support mainstream 32-bit and 64-bit operating systems: windows 2000, windows XP,

    windows 7, windows 8 and so on ;

III、 Expansibility

1. Synchronous and asynchronous play of contents of video and image files of multiple

    formats ;

2. Can install all Windows operating systems and support languages of various countries ;

3. The player software is reserved with sufficient interfaces, so as to be compatible with

    other international general protocols, and support the personalized design demands

    of the customers ;

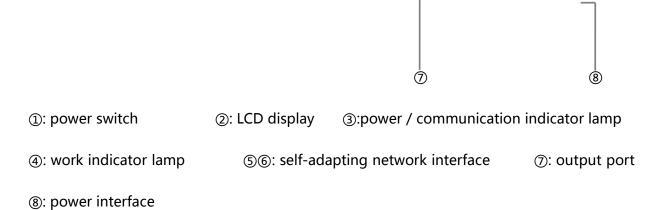# Controller specification and basic parameters

I. Controller Appearance
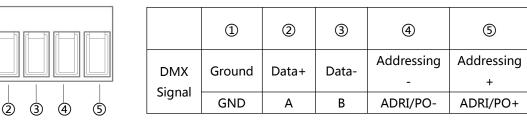
MR-218DW Front view :

MR-218DW Rear view :

①⑦ ⑧

①: power switch   ②: LCD display   ③:power / communication indicator lamp

④: work indicator lamp   ⑤⑥: self-adapting network interface   ⑦: output port

⑧: power interface

II.   Output port definition

MR-318DW controller uses 8pcs 5pin terminal interface output signals. 5Pin Terminals Sort

sequentially from left to right ,   as shown below :
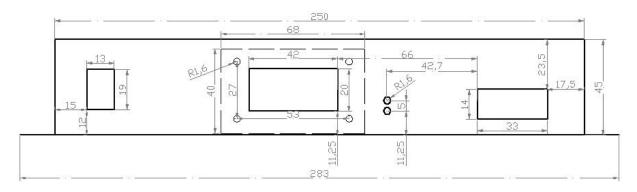
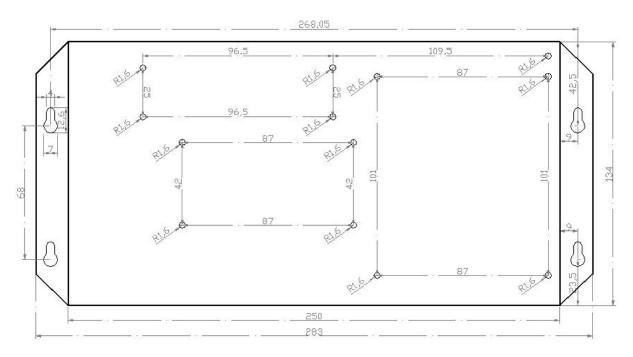|	①	②	③	④	⑤
DMX Signal	Ground	Data+	Data-	Addressing -	Addressing +
	GND	A	B	ADRI/PO-	ADRI/PO+

III.   Controller three view size chart
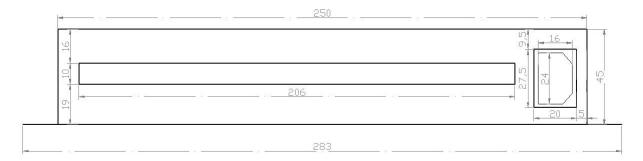
MR-218DW Front view

MR-218DW Top view

MR-218DW Rear view

Remark：Above three views the size unit is mm.

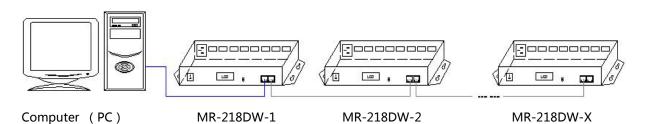## IV. Controller basic parameters table：

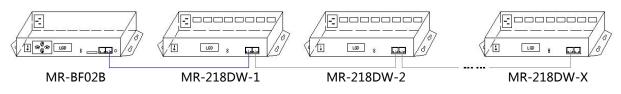| Rated voltage	AC100V ~ 240V
Rated power	15W
Length	283mm
Width	134mm
Height	45mm
Spacing of fixing holes	268mm ; 68 mm
Standard accessories	AC power cord ×1

Controller install applications

I、Online mode (connected with the computer)

MR-218DW Controller connect with the computer Ethernet port , as shown below :
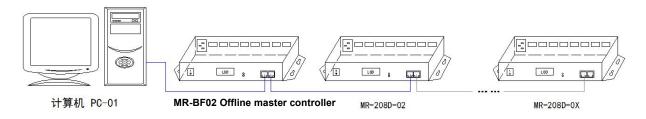
Computer （PC）　　　　　MR-218DW-1　　　　　MR-218DW-2　　　　　MR-218DW-X

II、Offline mode

MR-218DW connect with the offline master controller，as shown below：

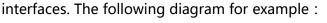MR-BF02B　　　　　MR-218DW-1　　　　　MR-218DW-2　　　… …　　　MR-218DW-X

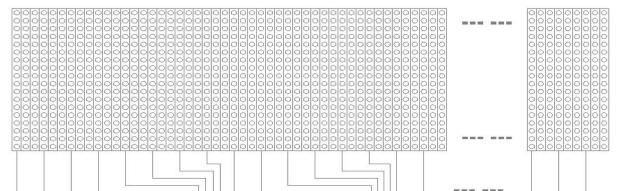## III、Integrated synchronous and asynchronous mode

Connected with the computer and offline master controller (when the mode is selected, the computer on-line works in priority, and the offline effect is automatically switched to without online signal)， as shown below：

计算机 PC-01　　**MR-BF02 Offline master controller**　　MR-208D-02　　… …　　MR-208D-0X

IV、Engineering case description and sketch map

For example in DMX512 point light source composed of 96 points × 18 dots matrix screen，use MR-218DW 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 interfaces. The following diagram for example：

Attention matters

I、Cat.5e 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

    Controller and offline master controller and switch these three devices between each other using a crossover cable is better，One head is 568B, the other head is 568A. Above any equipment and computer room with a straight line，that is both 568B or 568A，Do not define the order of the straight line。

II、Wire and connecting method from lights to controller

1. Controller output port to the lamp if the distance is too far，Recommended for the use of 485 dedicated lines or Cat.5e kind shielded cable connection，the best connection way is：

 Orange-A；Orange white-B；Green-addressing+（ADRI/PO+）；Green white-addressing-（ADRI/PO-）；Other connect to GND（Ground）

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

III、Controller connect to ground application notes

MR-218DW 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.