

MR-A28D ArtNet Controller Manual

Version:V4.6



ArtNet Decoding Controller

Revision date: 2022/10/17

Overview

MR-A28D Device is Based on The ArtNet Protocol of The Ethernet Network to Realize Communication Transmission, and The Lighting Software Sends it to The DMX512 Lamps in The Form of DMX512 Protocol Data.

MR-A28D Equipment Adopts High-Performance FPGA Processor, The Data is Efficient and Stable, it Follows The Standard ArtNet Protocol, Provides 2 RJ45 Network Interfaces, and Cooperates With Other Conventional Network Equipment to Realize Various Network Topologies.

MR-A28D Provides 8 Standard DMX512 Data Output Ports, Which Can Output a Total of 8×512 Data and Support Expansion Protocols. It Can be Used With Lighting Control Software Compatible With ArtNet Protocol, Such as: Madrx3, Madrx5, Programmer, Pharos, Sunlite, Luminair , Arosos, MA console, Siquande, etc.; Widely Used in LED Dot Matrix and Stage Lighting Control Systems That Require a Lot of DMX512 Data, Often Used in TV Stations, Stage Performances, Night tours, Light and Shadow Shows, 3Dmapping Shows and Other Places.

I. Features

1. MR-A28D Supports ArtNet Protocol, Based on TCP/IP Ethernet Protocol;
2. MR-A28D Standard USITT DMX512/1990 General Protocol and Extended Protocol;
3. MR-A28D Device Supports Cascade Transmission of 254 Devices;
4. MR-A28D Supports 64 Universer and a Single Port Can be Expanded by 8 Times, That is, 4096 Channels (Depending on Chip Performance);
5. The User Can Set up Two Different IP Addresses;

6. Support 32-65536 Grayscale 16Bit, Support 262144 Grayscale, Restore image Details;
7. Independent Brightness Control of 3 Primary Colors, Easy to Adjust White Balance;
8. Support R, RB, RGB, RGBW, RGBWY, and Multi-Color Mixing Control;
9. Accurate Gamma Correction Algorithm, in Line With Human Visual Sense;
10. Support 120Hz Frame Rate to Ensure High-definition Display and 3D Requirements;
11. Using Ethernet Interface and TCP/IP Protocol, The Distance is 100 Meters;
12. The LCD Display Module Displays the Controller Parameters and Status in Time;
13. Support The Device ID Number Data Flow Sequence and Fixed Arrangement;
14. Two RJ45 Ports, Support Mixed Cascading; Automatic Software Display Status;
15. A Variety of Chip Control is Integrated, and we Change the Control Chip Type, Clock Frequency, Duty Cycle, Gray Scale Level and Other Parameters Through Software Setting;
16. Support IP Grouping Function, use Switch Parallel Scheme;
17. 8-Port Output, Unlimited Number of Single-Port Load Points, Self-test;
18. Support Dual backup, a Controller is Broken or a Disconnected Display is Not Affected;
19. Support Device Port Anti-interference and Leakage Design;
20. Support Overcurrent and Overvoltage Protection, Can run for a Long Time;
21. Equipment Network Port, Port OutPut, Surge Protection: 1.5KV;
22. Support Severe Working Environment -40°C-80°C, Normal Operation Without Failure;
23. Network Adaptive or Mandatory 100M Can be Set to Support More Loading;
24. Different Network Segments Can be Set up to Avoid Mutual interference With Multiple Sets of ArtNet Data in the Same Network ;

- 25. Support all tTypes of DMX Chip Address and Parameter Writing;
- 26. Support Online One-Key Upgrade of Device Firmware.

Specifications and Parameters

I. Controller Appearance

MR-A28D Front View:



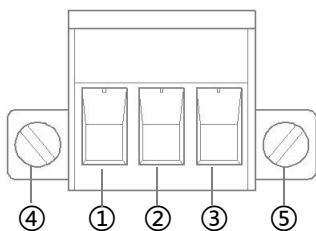
MR-A28D Rear View:



- ① Power Switch ② LCD Display ③ Power Lights ④ Signal Lights
- ⑤⑥ Self-adapting Network Interface ⑦ DMX OutPut Port ⑧ Power Interface

II. Output Port Definition

MR-A28D Controller Uses 8pcs 3pin Terminal interface Output Signals. 3Pin Terminals Sort Sequentially From Left to Right, as Below

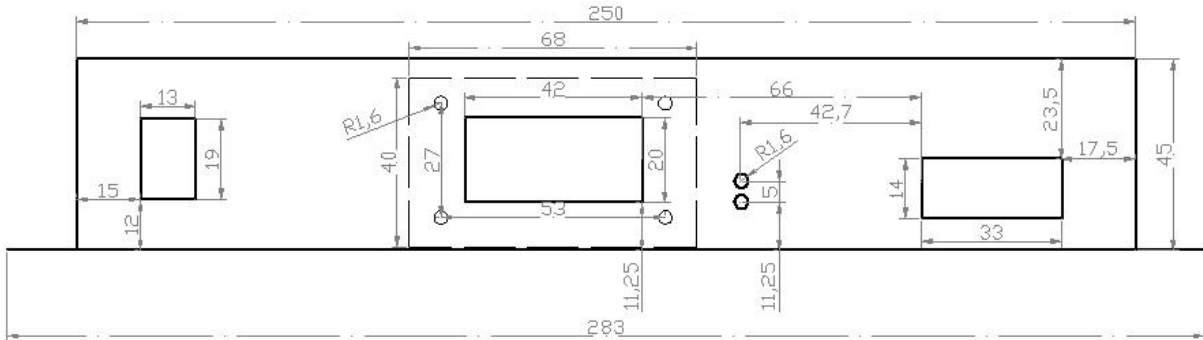


	①	②	③
DMX Signal	Ground	Data+	Data-
	GND	A	B

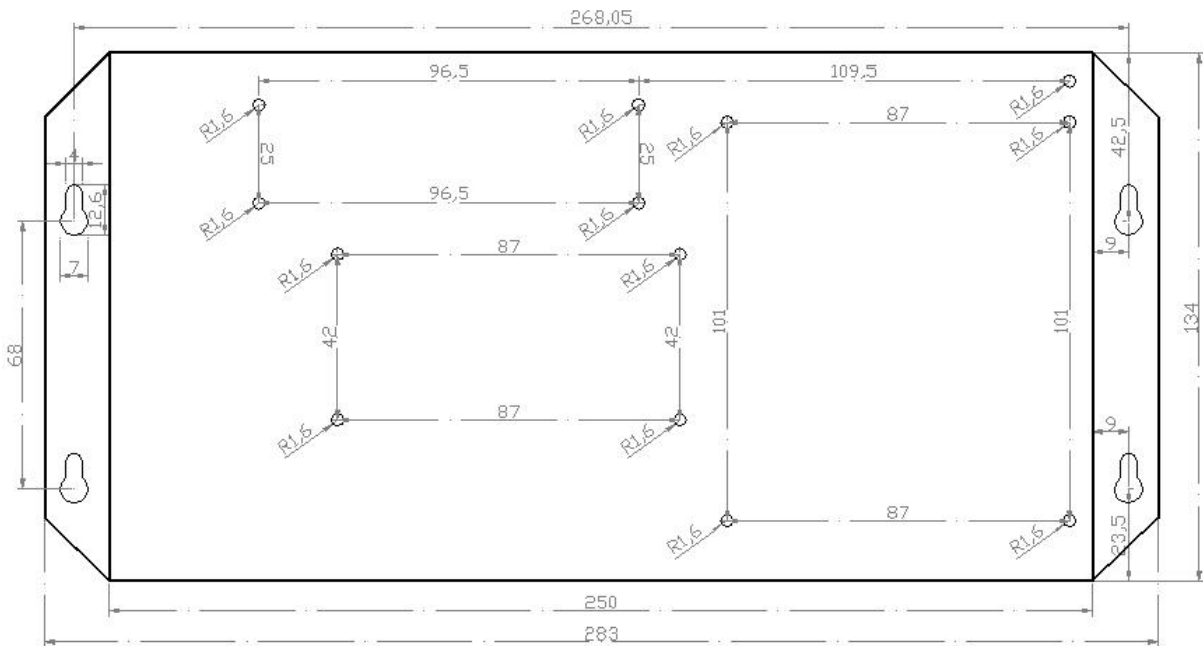
Remark: ④⑤ is 3Pin Port Fixing Screw Holes, Not a Signal Terminal.

III. Controller Three View Size Chart

MR-A28D Front View:



MR-A28D Top View:



MR-A28D Rear View:



Remark: Above Three Views The Size Unit is mm.

IV. Basic Parameter Table

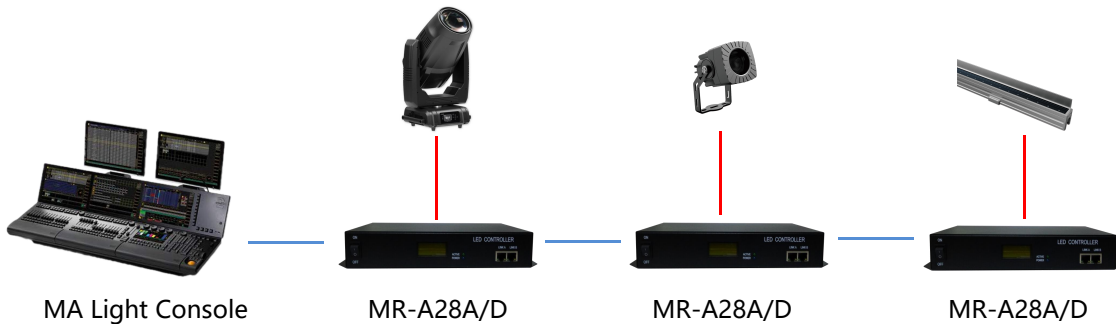
Product Name	Standard ArtNet Controller
Product Model	MR-A28D
Rated Voltage	AC 100V ~ 240V \pm 15%Vac50/60Hz
Rated Power	\leq 15W
Protocol	RJ45X2CH, Standard UDP/TCP Protocol
input Protocol	Standard ArtNet Protocol
Network Rate	100MB/1000MB Adaptive
Output	8-Port Output (Standard DMX512 and Extended Protocol)
Relative Humidity	\leq 95% (Non-Condensing)
Temperature	-40 $^{\circ}$ C ~ 80 $^{\circ}$ C;
Length	283mm
Width	134mm
Height	45mm
Hole Spacing	268mm; 68 mm
Protection Class	IP20
Installation Method	Fixed Hole installation Method (See Above Drawing)
Weight	1.48kg
Weight	Iron (Powder Spraying Process)
Shell Material	AC Power Cord \times 1/Warranty Card \times 1/Foam Paper box \times 1

Install and Use

I. Console Mode (Connected With MA Lighting Console)

MR-A28D ArtNet Device is Connected to The Network Port of the MA Lighting Console, as

Shown Below:



II. Online Mode (Connected With The Computer)

The MR-A28D ArtNet Device is Connected to The Computer Network Port (Pre-installed

Software That Supports ArtNet Protocol), as Shown in The Following Figure:

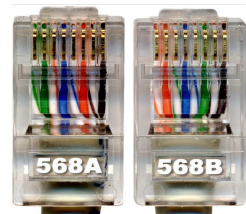


Attention Matters

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



The Controller Connect With Controller by Network With Cascades ,Recommended Purchase [Cross] Line Order: One is For 568B, The Other for 568A;

The Switch Connect With Controller by Network With Cascades, Recommended

Purchase [Cross] Line Order:One is for 568B, The Other for 568A;

Any of The Above Equipment Contact With Computer by Cascades, Recommended

Purchase[Direct] line Order: The Both for 568B or 568A;

Note: Follow The Requirements, Do Not Define Your Own Network Line Order.

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 and orange white connect to A+or B- at same time.

III、 Controller connect to ground application notes

MR-A28D 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.