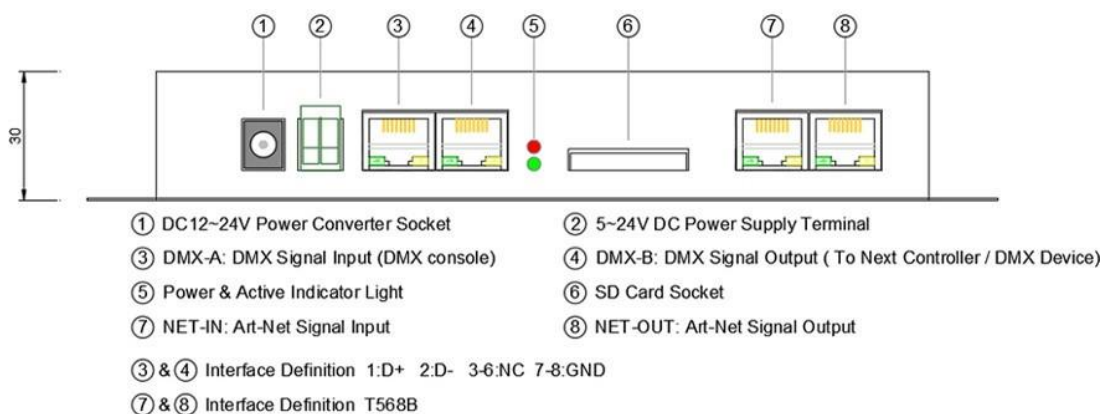# TC809 Art-Net Controller User Manual
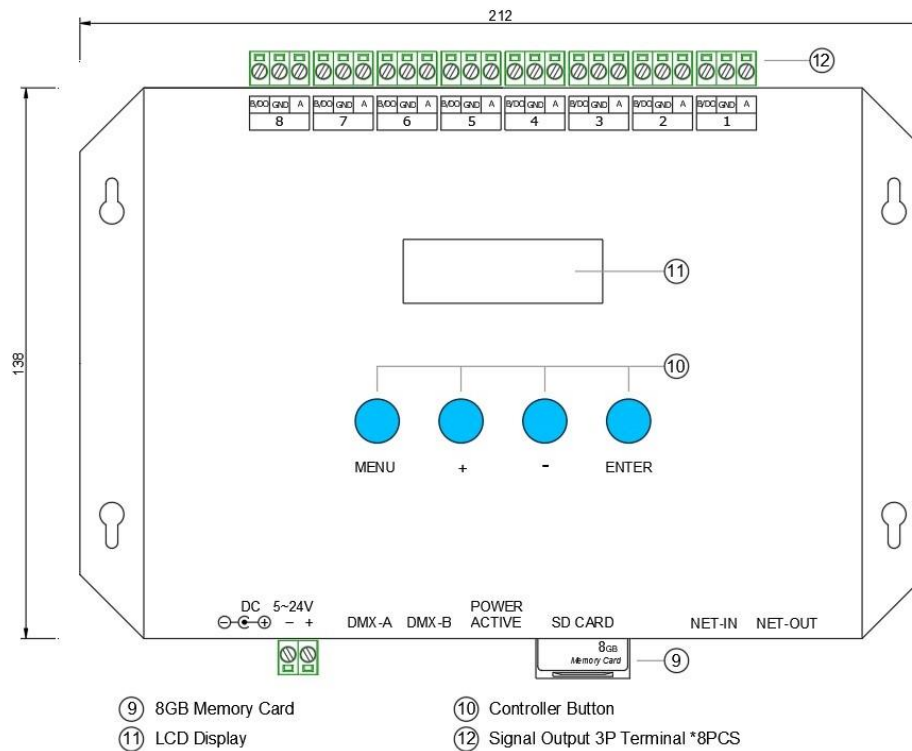

1. Product introduction

This TC-809 controller is a controller with LCD digital interface display, which converts Art-Net signals into various pixel lamp chip signals. It adopts standard Ethernet transmission and additionally accepts DMX512 signal control. Eight output ports, can control a variety of LED driver chips, support automatic addressing function, convenient for users to access different types of lamps, and realize unified control of different lamps in the project. The input network port can be directly connected to the computer network card, and can also be connected to the computer network card via a switch or photoelectric converter. Widely used in buildings, municipal lighting, stage scenery, entertainment venue decoration, etc.; it can achieve various running changes such as horse racing, running water, trailing, colouring, scanning, raindrops, etc., and has the advantages of convenient wiring and simple use; Single unit can be used in cascade connection.

2. Dimensions & Technical Parameters

TC809 Art-Net Controller Dimensions

① DC12~24V Power Converter Socket
② 5~24V DC Power Supply Terminal
③ DMX-A: DMX Signal Input (DMX console)
④ DMX-B: DMX Signal Output (To Next Controller / DMX Device)
⑤ Power & Active Indicator Light
⑥ SD Card Socket
⑦ NET-IN: Art-Net Signal Input
⑧ NET-OUT: Art-Net Signal Output

③ & ④ Interface Definition 1:D+ 2:D- 3-6:NC 7-8:GND

⑦ & ⑧ Interface Definition T568B

TC809 Art-Net Controller Front View

⑨ 8GB Memory Card   ⑩ Controller Button
⑪ LCD Display   ⑫ Signal Output 3P Terminal *8PCS

Technical Parameters

Name	Description & Parameters
Operating Voltage	DC5-24V
Input Signal	Art-Net / DMX512
Output Signal	DMX512 / SPI (TTL)
Refresh Rate	30(ms)
Control Pixels	RGB 1020pixels*8Ports　/　RGBW 765pixels*8Ports　（MAX）
Cascades QTY	170pixels*8Port / 128pcs 340pixels*8Port / 64pcs 510pixels*8Port / 42pcs 680pixels*8Port / 32pcs 850pixels*8Port / 25pcs 1020pixels*8Port / 21pcs
Operating temperature	-20℃ ~55℃
Protection level	IP20
Accessories	8G Memory Card * 1 / 3P terminal * 8 / 2P terminal * 1
Dimensions	L212 x W138 x H30 mm
Packing Size	25 x16.5 x4 cm
Product weight	0.73 kg

3. Functions and features

3.1 Provide LCD screen display, which can display the model, ID, and working status of the controller.

3.2 Have 8 ports output, each port can Control to 170/340/510/680/850/1020 pixels (depending on the number of different loaded chips).

3.3 The port outputs two signal protocols: ①DMX512/1990 international standard protocol and DMX512 extended protocol (RS-485 differential signal); ②TTL serial protocol (level signal).

3.4   Support a variety of pixel control ICs, flexible control methods.

3.5   Controller network IP on-line/manual setting function.

3.6   With DMX512 write address function, single port or all ports load DMX512 IC write address.

3.7   It can be directly connected to the computer network card when on-line, or it can be
       connectedto the computer network card via a switch or photoelectric converter.

3.8   It can be used as a single unit, or multiple units can be cascaded to use,
       supporting multiple connections of switches.

3.9   Support DMX512, on-line and off-line integrated control, on-line priority is the highest,
       automatically switch to off-line playback when there is no 2 on-line and DMX51 signal, on-line can
       be connected toMADRIX, offline can be connected to DMX512 console.

3.10   The SD card stores offline effect files and supports the download of effect files through Art-Net
       network, no need to insert or pull out the SD card.

3.11 It can be used as **the main control (with SD card inserted)** or **as a sub-controller (without SD card)**
       when it is on-line.

3.12   The sub-control cascade can be interchanged at will, and it has strong adaptability to lighting engineering.

3.13   The communication adopts the international standard TCP/IP network protocol, the optional
       transmission rate supports 100M/Gigabyte adaptive, the transmission speed is more stable and fast,
       andthe nominal transmission distance between each two controllers can reach 100 meters.

3.14   The network interface with indicator light is adopted, and the T568B line sequence protocol is adopted.

3.15   Port ESD protection design.

3.16   Power input interface reverse connection protection design.

4.   LED Lights Wiring Instructions

① D+ /A ② GND ③ D- /B
DMX512 Signal led lights wiring

① No wiring ② GND ③ Data
TTL Signal led lights wiring
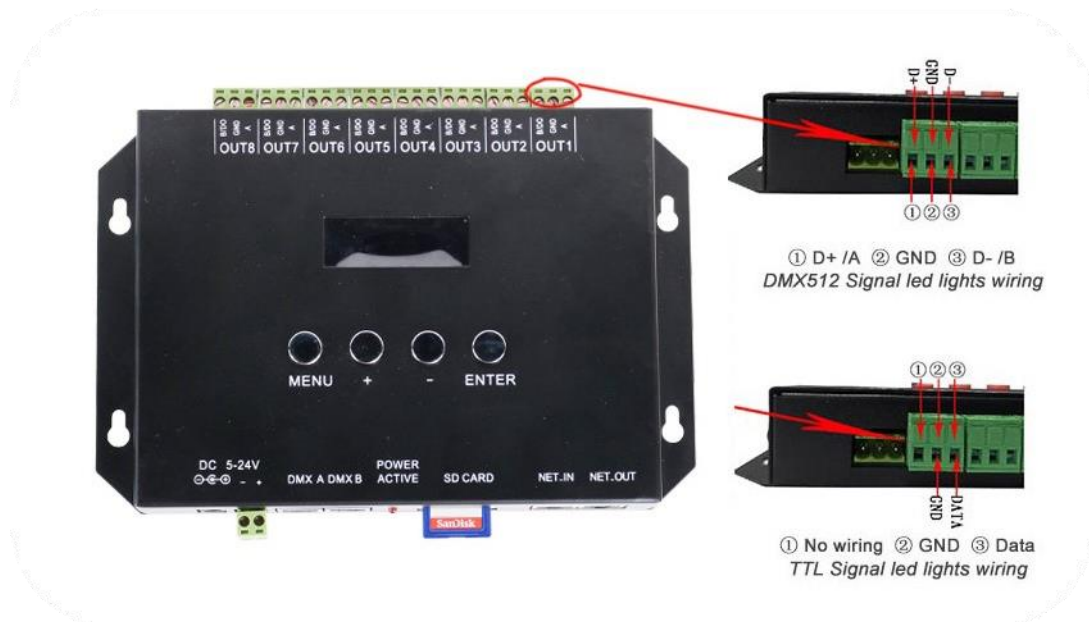
When outputting DMX512/HDMX/TM512/UCS512/SM16512 control signals (differential), 3-wires are required.

When outputting control signals (TTL) such as WS2811/UCS1912/UCS1903/GS8206, 2-wires are required.

LED Lights Wiring Definition

3P Terminal	DMX512 Signal	TTL Signal
A	D+	(NULL)
GND	GND	GND
B/DO	D-	DATA

5. **Control IC Type**

IC Type	IC Model NO.	Color
2811	TM1804, TM1809, TM1812, UCS1903, UCS1909, UCS1912, UCS2903, UCS2909, UCS2912, UCS2919, WS2811, WS2812, GS8206, SM16703 ……	RGB
1914	TM1914……	RGB
5603	UCS5603…..	RGB
512	DMX512, HDMX, TM512, UCS512, SM16512……	RGB
2904	UCS2904B……	RGBW