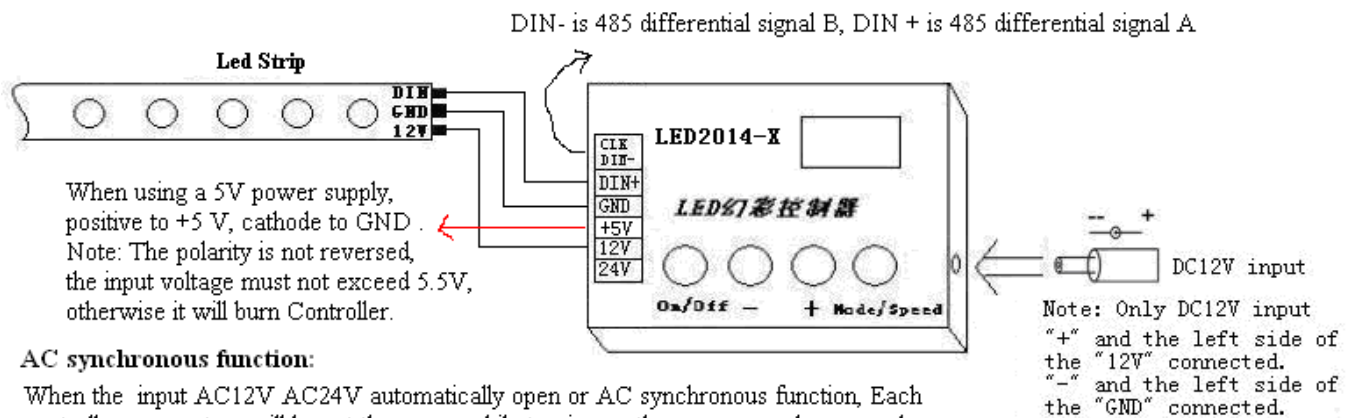# LED2014-X Dream-Color controller manual

I、 Basic parameters：

- Operating voltage : DC5V, DC12V, DC24V, AC12V, AC24V (AC-DC Universal)

- Operating Current : <60 mA

- Working temperature : -20 ℃ - 60 ℃

- Size : L100 * W70 * H25 mm

- Weight : 0.25kg

- Effect mode: 300 kinds

- Maximum control points: 2048 points .

- light bar controller from the first point of the distance: < = 30 m , with TH2010-485MD differential receiver module up to 200 meters.

- Remote control distance : open 500 meters (4 key power RF remote control)

- comes with two kinds of signal output , TTL signal (DIN + and GND) and 485 differential signal (DIN + and DIN-), with TH2010-485MD modules can achieve long distance transmission , DIN + and DIN- , respectively, then TH2010-485MD module A and B, the signal line can be up to 200 meters .

- Provide a variety of power supply interface , when the input DC power display "P-dC" when the input AC power display "P-AC", power automatic recognition, attention : +5 V power supply DC5V interface only allows no more than 5.5V, and polarity can not be reversed , otherwise it will burn the controller.

- AC synchronous function. When the input AC12V AC24V automatically open or AC synchronous function, Each controller parameters will be set the same, while turning on the power, can keep synchronous.

II、 connection diagram：

III、 Operating instructions：

On/Off : Power on / off. (when off automatically saving parameters).
　　一 : Effect Programs - / Speeds -.
　　十 : Effect Programs + / Speeds +.
Mode/Speed: "+" And "-" keys to adjustment effect program or adjustment speed the function switching.
Auto Play method of operation: When the "Mode/Speed" and "-" keys pressed simultaneously will automatically play 300 kinds of effect programs.
Adjust pixel point methods of operation: Shutdown can be adjustment pixel points. Press the "On / Off" button to shut down, press the "Mode / Speed" button to enter the pixel points adjustment menu, then press the "+" and "-" to adjust the number of pixel points, the adjustment process at the same time live "Mode / Speed" button to quickly adjust. After adjustment Press "On / Off" button to save and exit.

IV、   Interface Description：

CLK/DIN- : 485 differential signal output B (B received 485 receiver board when using 485), when the control   double line IC the CLK is clock line.

DIN +: data output DIN, also a 485 differential signal output A.

GND: "DC Power negative" and "signal ground" and "one of the AC power supply line", they share a terminal.

+5 V: 5V power positive input. negative connected to GND, Note: The port can not exceed 5.5V input voltage and polarity is not reversed.
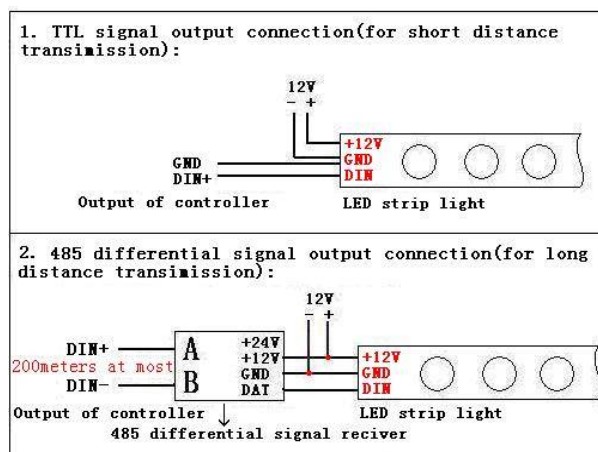
12V: 12V power input. When using AC12V power, one of the power cord connected to the port, another power cord connected to the GND, regardless of polarity. when using DC12V power, positive connected to the port , negative connected to GND.

24V: 24V power input . When using AC24V power, one of the power cord connected to the port, another power cord connected to the GND, regardless of polarity. when using DC24V power, positive connected to the port , negative connected to GND.

The controller has two signal output, connection as follows:

TTL signals: DIN in the light strip   connected to DIN +, and GND connected to GND (when using AC power as well).

Differential signal: The "485 differential receiver converter board"   B connected to CLK/DIN-, and A connected to DIN+. (Note: the use of differential signal transmission must be add "485 differential receiver converter board" in the front of light strip. We recommended use of the controller supporting the "485 differential receiver converter board",the Model: TH2010-485MD), connection diagram is as follows:

AC synchronous: When adopt to AC synchronous function must be use AC12V or AC24V power. The controller will automatically recognize and open AC synchronization function,the parameters must be set the same for each controller and then turn on the power at the same time. Please stop operation when the controller is working, otherwise it will be no synchronization.

Note: If you are using a DC power supply AC synchronous function can not be used.

V、   Power on the digital display instructions:

P - dC: input power to DC (display at boot).

P - AC: AC input power (display at boot).

HXXX: Single program loop (fixed effect at XXX a loop).

AXXX: All program Loop (Loop effects 001-293, 294-300 static monochrome effect, does not participate in play), when switching to H000 channels, one second after the beginning of the entire loop, digital control is automatically displayed as AXXX , where XXX is currently playing effects ID number.

E - XX: Indicates the current playback speed, XX for the speed grade, sub-10 level 01-10, the larger number the faster.