SHENZHEN DC5-24V Addressable Programmable Controller Instruction Manual

SHENZHEN DC5-24V Addressable Programmable Controller

Contents

K-1000C system features

1. 32 to 65536 grade gray control, software Gamma correction processing.
2. Supports various point, line and area light sources, supports various rules, and special-shaped processing.
3. The single port output of the controller can reach a maximum of 512/2048 pixels (the maximum 512 pixels of the DMX luminaire is exemplified by three channels).
4. The playback content is stored in the SD card, which can store up to 32 effect files. The SD card capacity supports 128MB-32GB.
5. The controller can be used in a single unit or in multiple cascades. The cascade uses photoelectric isolation: anti-interference and better stability. The cascade distance between the two units can reach 150 meters, and 0.5 square meters of pure copper power cord is needed.
6. The controller with the loaded chip can lock the loaded IC in the software or not. By adjusting the controller's chip button to select the loaded IC, this scheme is more flexible and convenient.
7. The IC controller for DMX luminaires comes with a write address function; in addition, with our 2016 LedEdit-K V3.26 or higher software, one-click address function can be set.
8. Supports on-board luminaires with 4 channel (RGBW) pixels or split into single channel point pixels.
9. Enhanced TTL and 485 differential (DMX) signal output.
10. The controller comes with 22 test effects and comes with DMX512 test function.

Remarks:

1. **The controller carries 512 pixels of light, the speed can reach 30 frames/second, the speed of 1024 pixels can reach 25 frames/second, and the speed of 2048 pixels is about 15 frames/second (the above parameters are based on the 1903 protocol IC DATE, there will be differences between different IC).**
2. **The international standard DMX512 (1990 protocol) has a maximum load of 512 pixels. When the load is 170 pixels of the international standard, the speed can reach 30 frames/second, the speed of 340 points is about 20 frames/second, and the speed of 512 pixels is about 12 frames/second.**

3. **For the function of Beidou wireless synchronization, please contact sales staff or technical support for details.**

Support chips:(PC software selects K-1000-RGB):

00 UCS19,UCS29** TM18**,SM167**,WS28**,GS82** SK6812(Supportmax.2048 pixels**
01 SM16716,16726(Support max.2048 pixels)
02 P9813 (Support max.2048 pixels)
03 LPD6803 (Support max.2048 pixels)
04 LX1003,1203(Support max.2048 pixels)
05 WS2801(Support max.2048 pixels)
06 LPD1886(Support max.2048 pixels)
07 TM1913(Support max.2048 pixels)
08 TM1914(Support max.2048 pixels)
09 P9883,P9823(Support max.2048 pixels)
10 DMX 250kbps max. spoort 512 pixels, suggest to support ≤320pixels 11 DMX 500K 500kbps max. spoort 512 pixels, suggest to support ≤320pixels 12 DMX 250K-CZF max. spoort 512 pixels, suggest to support ≤320pixels 13 DMX 500K-CZF max. spoort 512 pixels, suggest to support ≤320pixels 14 UCS5603-Test (Support max.2048 pixels)
15 UCS5603A(Support max.2048 pixels)
16 UCS5603B(Support max.2048 pixels)
17 TM1814(Support max.2048 pixels)
18 INK1003(Support max.2048 pixels)
19 APA102(Support max.2048 pixels)
20 UCS8904(Support max.2048 pixels)
21 SM16714(Support max.2048 pixels)
22 SM16813(Support max.2048 pixels)
23 GS8512 (max. spoort 512 pixels, suggest to support ≤320 pixels 24 QED3110 (Support max.2048 pixels)

Remarks:

1. For RGBW four-channel luminaires need to select K-1000-RGBW, and above four-channel luminaires needs to select K-1000-RGBWYA.
2. The K-1000-W is required when carry the single-channel luminaire. In this case, one channel represents one pixel, and the software effect is white.

Appearance picture:

Silk screen definition:

Button meanings:

Button	Definition	
CHIP	Switch the chips	Press the chip button and then press the mode button to enter the cod e writing mode; after completing the code writing, press the chip button and then press the mode button to exit the writing mode.
MODE	Switch the files	
SPEED+	Speed up	Press SPEED+ and SPEED- at the same time to enter the effect file lo op playback mode, and the display C C C flashes, indicating that enter ed the file loop playback mode
SPEED-	Speed down	

Port definition:

DC 5-24V	DC 5-24V power positive input	**IN A**	Cascaded synchronization signal, connect the previous OUT A
GND	DC power supply negative input	**IN B**	Cascaded synchronization signal, connect the previous OUT B
POWER	Power indicator	**OUT A**	Cascaded synchronization signal, connect the next IN A
ERROR	Status indicator	**OUT B**	Cascaded synchronization signal, connect the next IN B
SD card	SD card slot		
GND	Ground line(negative)	**B**	Signal - DAT-
CLK	Clock line DMX lights address wr iting	**A**	Signal + (DAT+)
DAT	DATA line		

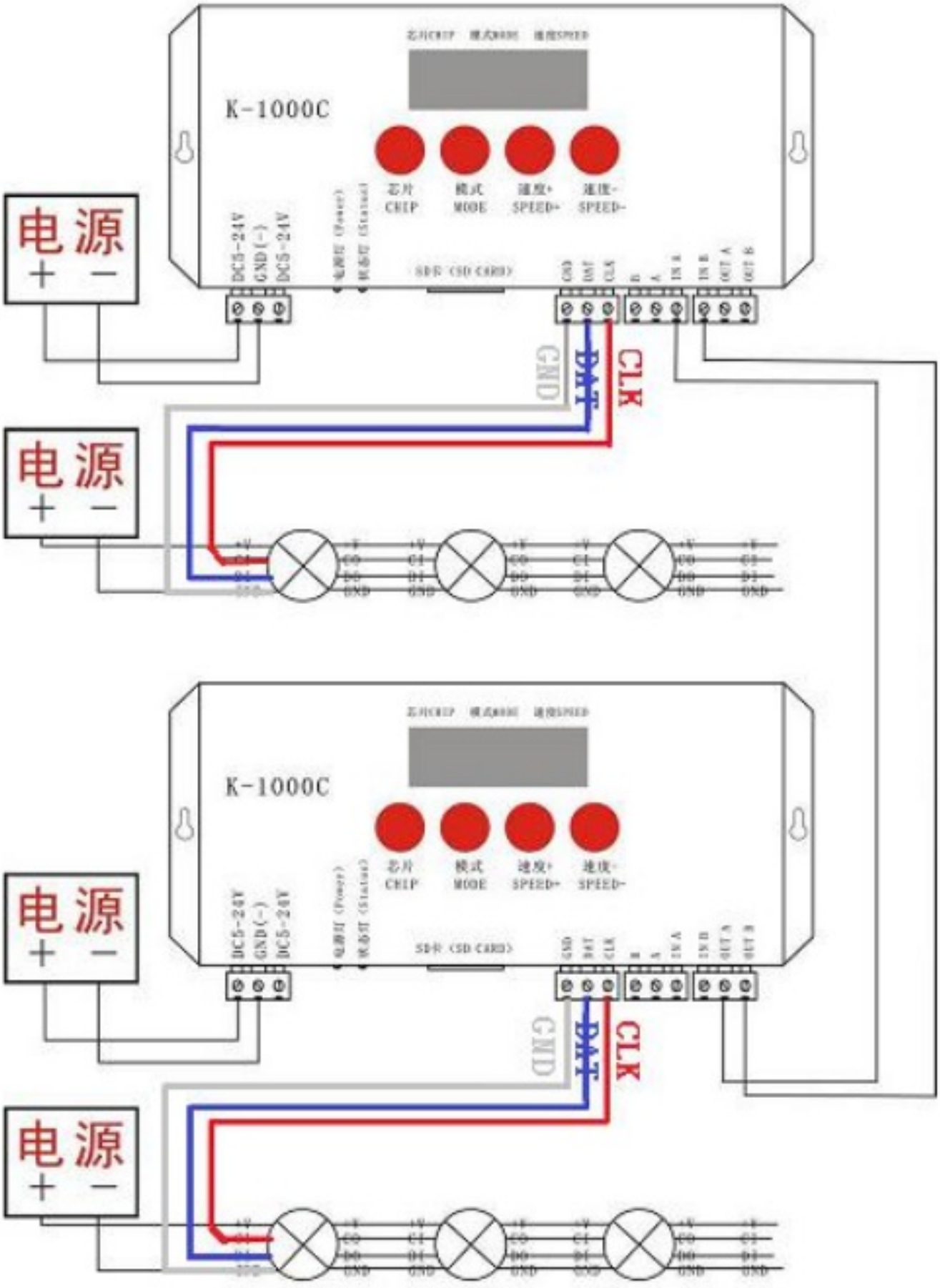
Display vocabulary (six digit screen)

Display			Definition
1		F_F_F	Card reading error
2		A_A_A	DMX512 write address
3		C_C_C	Effect loop playback
4		2_2_2	Cascaded control
5		0_0_0	Enter DMX lamp address test / parameter write
6			Write code interface Chip display: DMX512IC code 61-80 Mode display: No definition Speed bit: Number of channels 0-99
7			Play interface Chip display: onboard IC code 0-23 Mode display: Program serial number Speed: 1-16 level

Speed grade corresponding to frame rate:

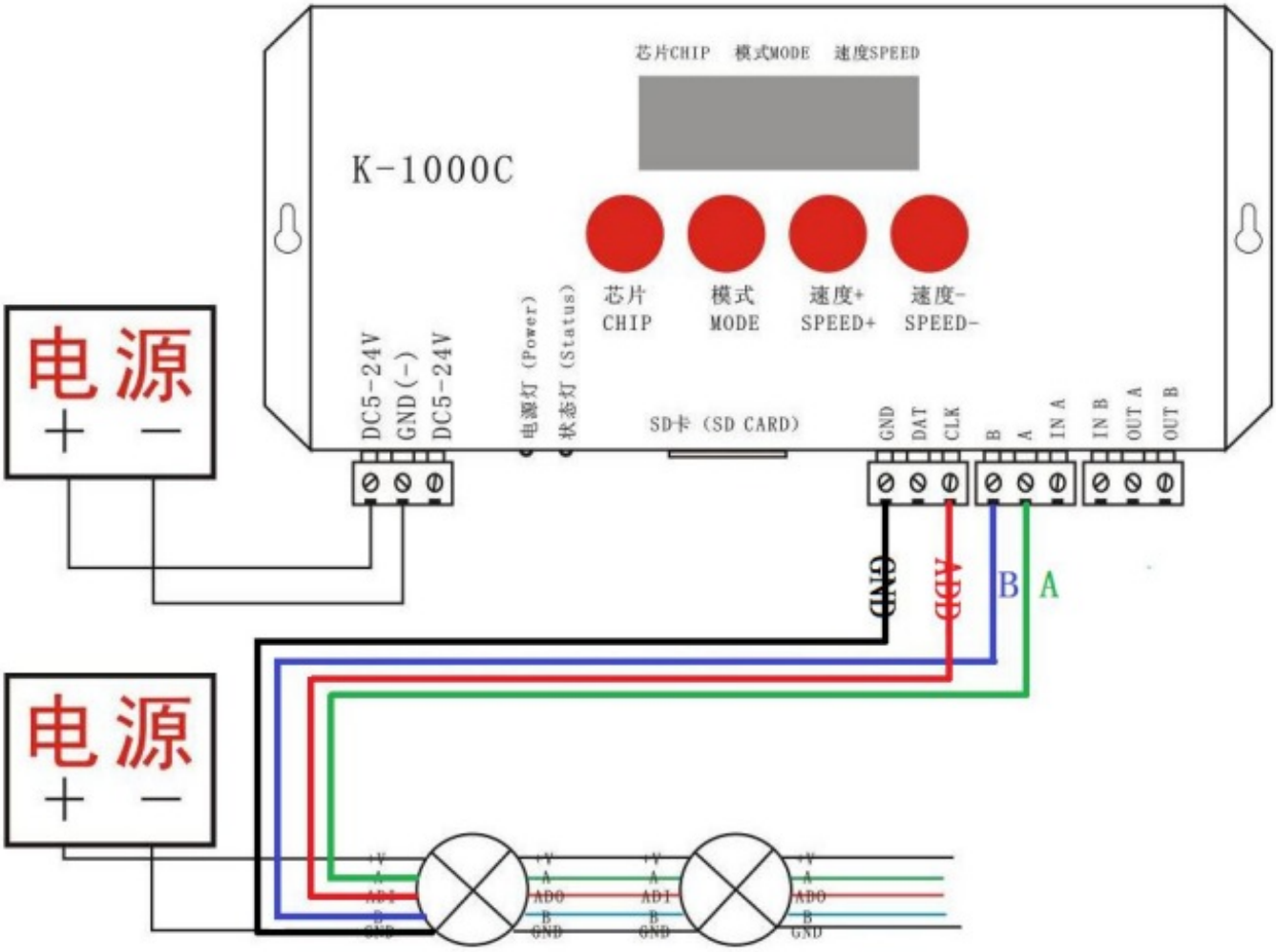
Speed	Frame/second	Speed	Frame/second	Speed	Frame/second	Speed	Frame/second
1	4 Frame	**5**	8 Frame	**9**	14 Frame	**13**	23 Frame
2	5 Frame	**6**	9 Frame	**10**	16 Frame	**14**	25 Frame
3	6 Frame	**7**	10 Frame	**11**	18 Frame	**15**	27 Frame
4	7 Frame	**8**	12 Frame	**12**	20 Frame	**16**	30 Frame

Conventional IC lamp wiring

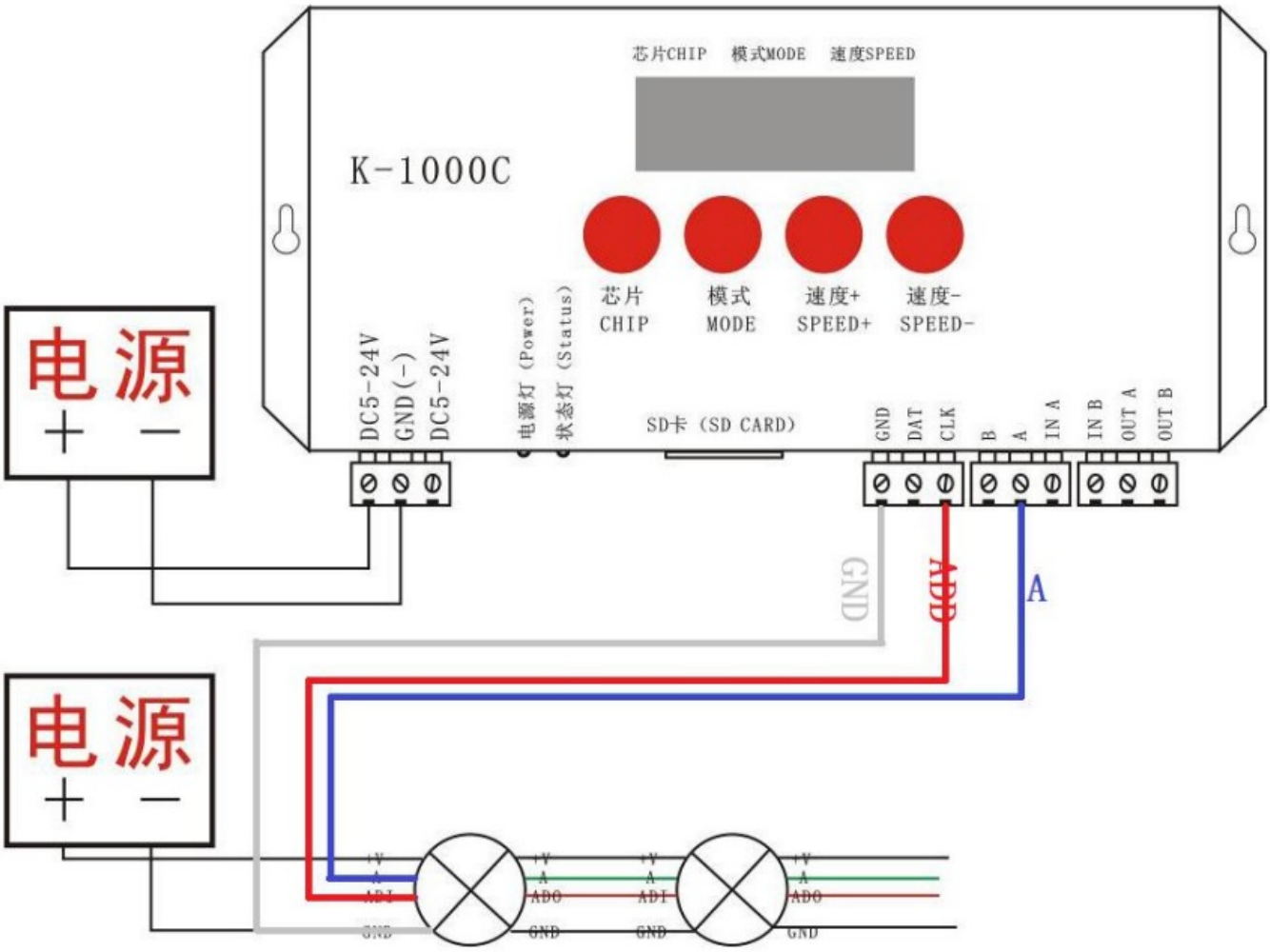


DMX512 luminaire wiring method:

DMX512 differential signal line wiring diagram: **A**/**B**/**ADD**/**GND(A**/**B**/**GND**)



DMX512 single line signal wiring diagram: A(DAT)/ADD/GND



Note: For some DMX512 luminaire installations, the controller output terminal does not need to beconnectedto the ADDR write address line of the luminaire. It only needs to be connected to A/B/GND, anditsdatabus is automatically addressed (for details can refer to the DMX512 luminaire loadedICusagespecification).

DMX512 lamp writing code and lamp address test

1. Connect the line as shown above to start the controller. First press and hold “Chip CHIP” and thenpressthe”Mode MODE” button to switch to the address mode, as shown below: “61_*_3”,

2. Press the “Chip CHIP” button to select the DMX512 onboard IC model; “Speed+” and “Speed-” selectthefixture interval channel (0-99).

   DMX512IC code as the below list:

Appendix: DMX512IC code and IC correspondence table								
61: UCS512A*/B*,TM512AL1/AB			62: WS2821		63: SM DMX512AP-N			64: UCS512C*,TM512AC*
65: SM1651*-3CH			66: SM1651*-4CH		67: UCS512D*/TM512AD*			68: UCS512E*
69: UCS512E Chip parameter setting			70: SM17512*		71: SM17522*			72: UCS512-F
73: TM512AC*			74: SM17500 address writing	regular	75: SM17500 parameter setting	chip	itself	76: SM17500 chip parameter setting and then address writing
77: GS8512 writing	regular	address	78: GS8512 write single address		79: GS8512 set as no address			80: QED512P

NOTE 1: 69 is the chip itself parameter setting for UCS512E* lights, and apply it to the load IC of UCS512E*.Step 1: select 69 and writ the chip itselt parameter to the same specification lights; Step2, select68 to write address for the lights.

NOTE 2:75: It is the chip itself parameter setting for SM17500 lights, and apply it to the load ICof SM17500.Step 1: select 75 and writ the chip itselt parameter to the same specification lights; Step2, select76to write address for the lights.

NOTE 3: 78 GS8512 write single address, and apply to the load IC of GS8512, at the same time towritethesame address code for multiple lights. NOTE 4: 79 GS8512 set as no address mode, apply to the load IC of GS8512, Set it to use in serial (TTL/SPI)mode.

3. After selecting the code, press “MODE MODE” to write code. At this time, the screen will display AAA. Thefollowing picture is displayed:

4. After writing the address code, the controller enters the DMX512 lamp channel test mode: the digital screendisplays A 0000;

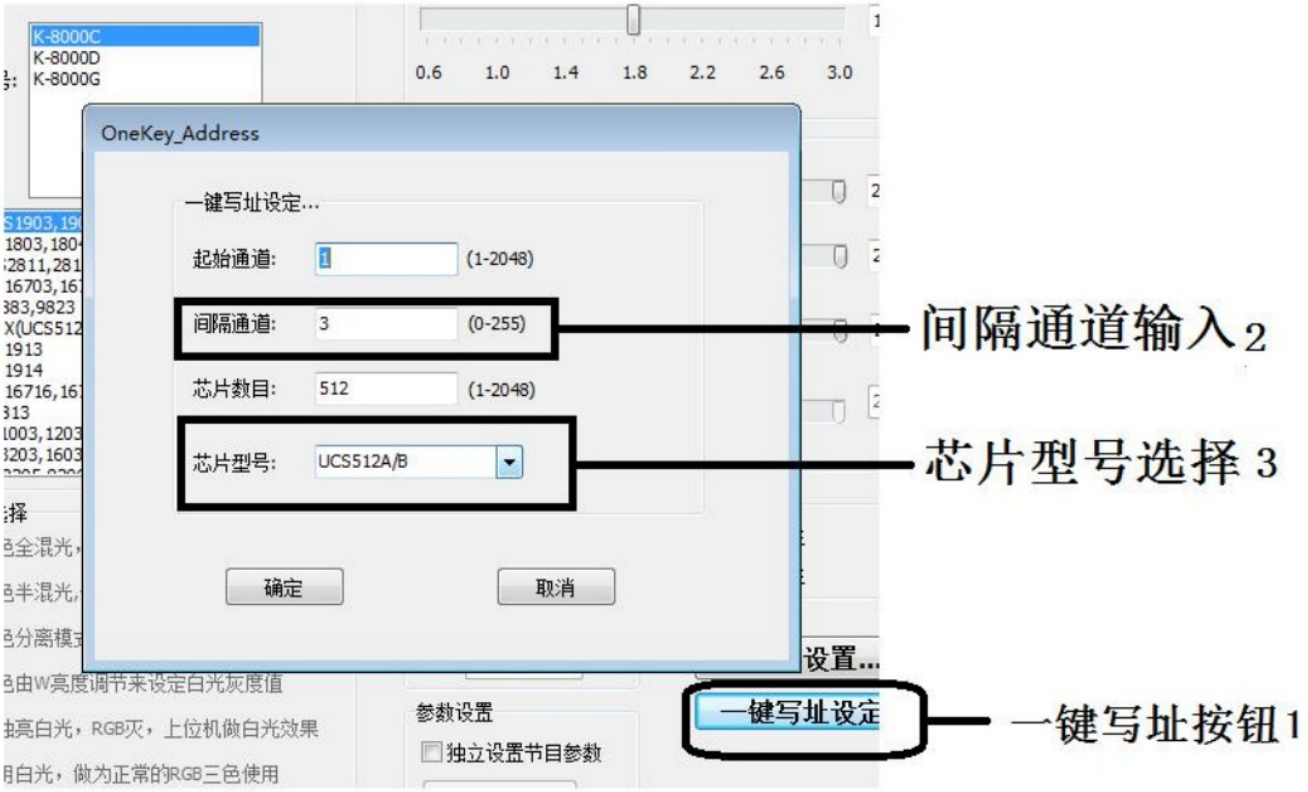
5. Press the “MODE MODE” button to enter the automatic test mode, the display is “A ****”(*is thenumber of channels), and the fixture will automatically start the white light from the first pixel.
6. Press the “MODE MODE” button again to enter the manual test mode, the display is “C ****”(*isthenumber of channels), “Speed +” and “Speed -” can adjust the pixel points (long press “Speed+”or“ Speed – “can be quickly incremented or decremented”, the lighting pixels are lit one by one;

7. After the test is completed, press “CHIP” to exit the channel test and return to the write code interface;

8. Press and hold “Chip CHIP” first, then press the “Mode MODE” button to switch to playback modeandswitchthe chip to Chip: 10, it is the DMX512 standard protocol 250Kbps playback mode. At this time, press themodebutton and the speed button to switch the playback mode and adjust the speed respectively, as shownbelow:

DMX512 light one-button address writting

1. When the software writes the program output, click the button to enter the one-clickaddressinterface.



2. Interval channel input

   The interval channel is input according to the actual value of the luminaire. The valueisthenumber of channels occupied by a DMX512 IC to control the pixel points of the luminaire.

3. Chips mode selection

   Click the drop-down button to select the chip model corresponding to the DMX512IConthelamp.

4. Complete the one-button address writing setting

   Confirm the settings are correct, click the confirm button to complete the programoutput.

5. Controller one-click address writing operation

   ①SD card inserted into the controller;

   ② Power on the controller;

   ③ Long press“MODE” button for 5 seconds, the controller display “A-A-A” means it is writingaddress now;

   ④After the address is written, the controller will also enter the channel test mode(sameasthe channel test after

manual address). ⑤After completing the channel test, press the “chip chip”button to exit the test mode, andthe controller returns to the playback mode to work normally

DMX512 luminaire test

1. Press the “Speed -” button to power on, enter the lighting test interface, display 0 0 0

2. It takes about 2 seconds to enter the test fixture address interface without any operation. The controller displays A3 0000
3. Press the “MODE” button to start the automatic test of the lamp address

   NOTE 1: The first digital tube indicates the automatic and manual test mode: A is the automatic test mode, C is the manual test mode, and is switched by the ” CHIP” key;

   NOTE 2: The second digital tube represents the pixel point channel of the luminaire, 1 is a monochromesingle-channel luminaire, 2 is a two-color two-channel luminaire, 3 is an RGB three-color luminaire, and 4is anRGBW four-color luminaire, which is switched by a “mode MODE” key;

   NOTE 3: The 4th-6th digit tube indicates the number of the lights. 4. After the test is powered off and restarted, the controller can enter the normal play mode.

Specific parameters

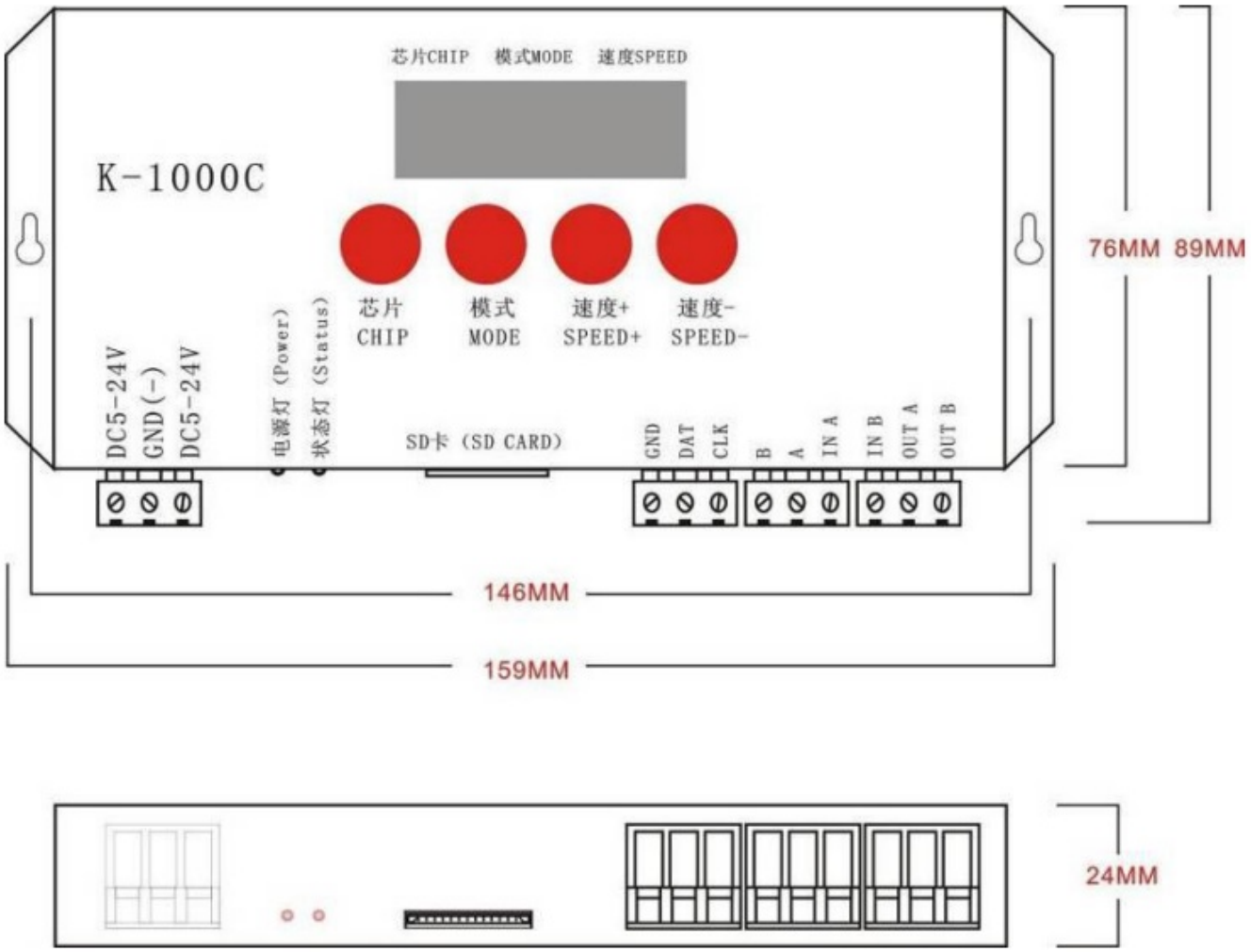
Physical parameters:

Working temperature:	-30°C—85°C
Working power supply:	DC 5V -24V input
Power consumption:	2W
Data transmission port:	3pin terminal block
Weight	0.35Kg

Memory card:

Type:	SD card
Capacity:	128MB-32GB
Format:	FAT or FAT32 format
Storage file:	*.led

Size:



SD card formatting

1. The SD card must be formatted before copying the file to the SD card (note that it is formattedbeforeeachcopy).
2. Formatting process

   ①SD card settings – “File System”, “FAT” format (SD card capacity ≤2G) or “FAT32” format (SDcardcapacity ≧ 4G).

   ②SD Card Settings – “Assign Unit Size”, click the drop down button to select “Default Configuration Size” or click the “Restore Device Defaults” button

   ③Start formatting.

Documents / Resources

	SHENZHEN DC5-24V Addressable Programmable Controller [pdf] Instruction Manual DC5-24V, Addressable Programmable Controller, DC5-24V Addressable Programmable Controller, Programmable Controller, Controller