DMX-SPI-203 LED Controller

FC CE RoHS (warranty 5 years) ISO9001:2008

DMX-SPI-203 controls LED with the following compatible ICs: LPD6803, LPD1101, D705, UCS6909, UCS6912, LPD8803, LPD8806, TM1803, TM1804, TM1809, TM1812, UCS1903, UCS1909, UCS1912, UCS2903, UCS2909, UCS2912, TLS3001, TLS3002, WS2801, WS2803, WS2811, WS2812, P9813.

Supporting international standard protocol DMX512/1990 interface, with DMX administration mode to invoke the built-in functions for choosing mode, speed, brightness, types and direction changing by DMX512 console. Furthermore, it has the DMX decode mode, customers could use DMX512 console to program & control every channel of the LEDs with the compatible ICs listed above. 0-100% dimming range, program any lighting effect required.

1. Product Parameter:

DMX-SPI-203   Controller:

- Input Voltage: 5~24Vdc
- Power Consumption: 1W
  (if the lamps are powered individual)
- Output Signal: SPI(TTL)
- Change Mode: 540
- DMX Channel: DMX Manage Mode: 6CH
              DMX Decode Mode: 510CH

- Control Qty: 1024 Pixels
- Virtual Pixel: 1-6 times, Max 1024 pixel
- Working Temperature: -30℃ ~ 55℃
- Dimensions: L175×W44×H30(mm)
- Package Size: L178×W48×H33(mm)
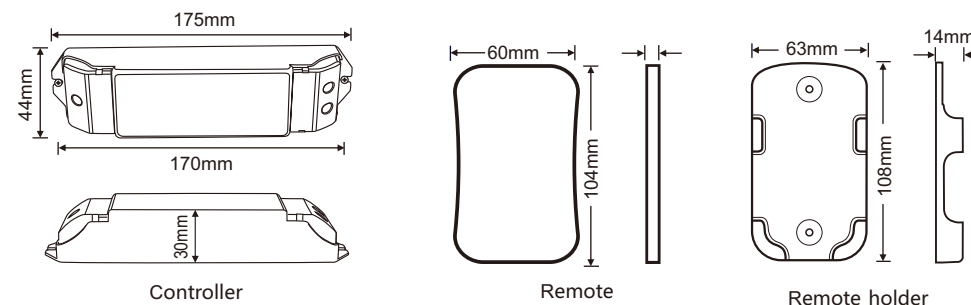- Weight(G.W.): 130g

M203 Remote

- Working Voltage: 3V(battery CR2032)
- Working Frequency: 2.4GHz

- Working Temperature: -20℃~55℃
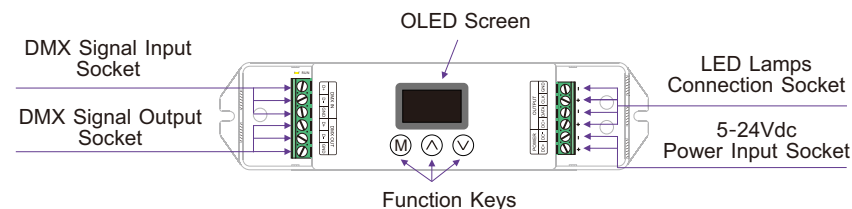- Dimensions: L104×W58×H9(mm)
- Weight(N.W.): 42g

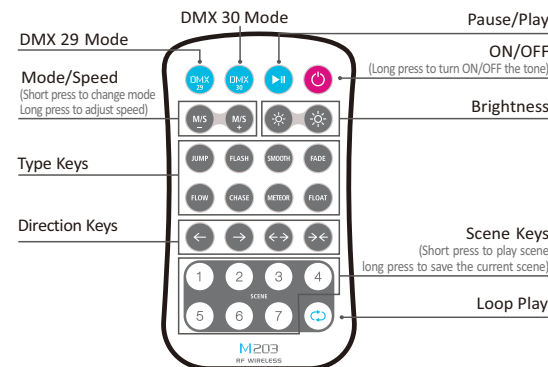**Package Dimensions:** L228xW156xH35(mm)

Total Weight(G.W.): 240g

2. Product Dimension:

Controller   Remote   Remote holder

3. Terminal Description:

DMX Signal Input Socket

DMX Signal Output Socket

OLED Screen

LED Lamps Connection Socket

5-24Vdc Power Input Socket

Function Keys

4. M203 Remote:

DMX 29 Mode

DMX 30 Mode

Mode/Speed
(Short press to change mode
Long press to adjust speed)

Type Keys

Direction Keys

Pause/Play

ON/OFF
(Long press to turn ON/OFF the tone)

Brightness

Scene Keys
(Short press to play scene
long press to save the current scene)

Loop Play

The Learning Remote Method:

The controller and remote are Pre-synced at factory. If deleted accidentally, the sync method is as follows.

Firstly, press M Key on the controller to enter the setting interface. Secondly, press M Key again to switch to "Remote Match" entry.
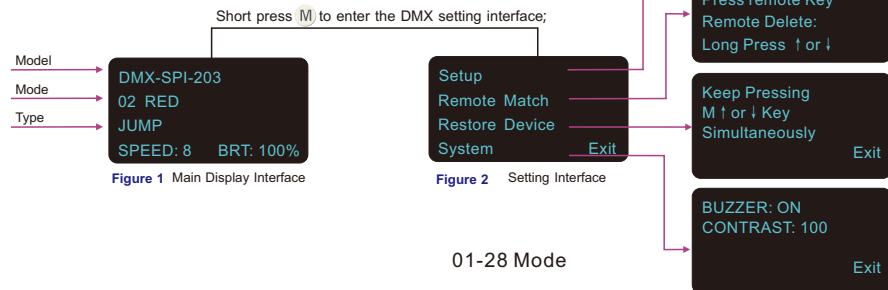
Then Press "∧" or "∨" button to enter remote learning interface: Press any key on the remote control to match with the controller.

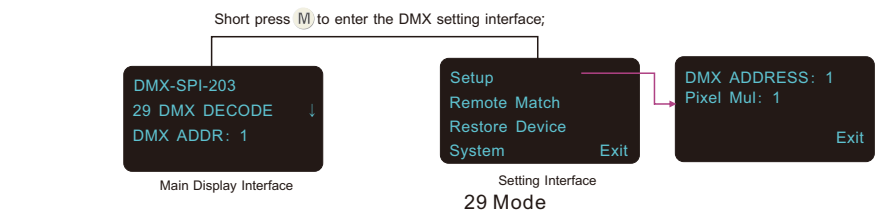Long press "∧" or "∨" button to delete ID, which cancels the match.

(multiple remotes could be synced to one controller):
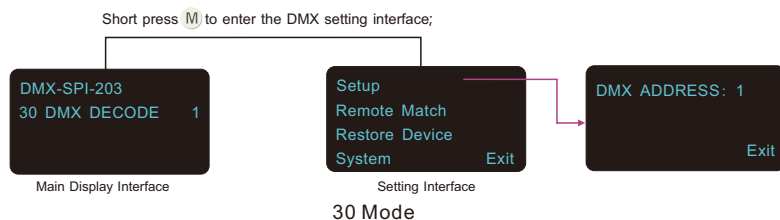
5. OLED Screen Interface Diagram:

Press "M" key, switch entries.
Press "∧" or "∨" key, adjust parameters.
Exit: Return to the previous menu.
Long press "M" key, return to
the main display interface(Figure 1).

Short press M to enter the DMX setting interface;

Model
Mode
Type

DMX-SPI-203
02 RED
JUMP
SPEED: 8   BRT: 100%

Figure 1 Main Display Interface

Setup
Remote Match
Restore Device
System   Exit

Figure 2 Setting Interface

PixelLength: 256
Pixel Zoom: 16
CHIP11:TM1809
ORDER: RGB   Exit

Remote Study:
Press remote Key
Remote Delete:
Long Press ↑ or ↓

Keep Pressing
M ↑ or ↓ Key
Simultaneously
                   Exit

BUZZER: ON
CONTRAST: 100
                   Exit

01-28 Mode

Short press M to enter the DMX setting interface;

DMX-SPI-203
29 DMX DECODE   ↓
DMX ADDR: 1

Main Display Interface

Setup
Remote Match
Restore Device
System   Exit

Setting Interface
29 Mode

DMX ADDRESS: 1
Pixel Mul: 1
                   Exit

Short press M to enter the DMX setting interface;

DMX-SPI-203
30 DMX DECODE   1

Main Display Interface

Setup
Remote Match
Restore Device
System   Exit

Setting Interface
30 Mode

DMX ADDRESS: 1
                   Exit

Table of Changing Modes

No.	Changing Color	No.	Changing Color	No.	Changing Color	No.	Changing Color	No.	Changing Color	No.	Changing Color
1	BLA(black)	6	PUR(purple)	11	B/W(blue/white)	16	R/P(red/purple)	21	Y/P(yellow/purple)	26	G/B(green/blue)
2	RED(red)	7	GYN(cyan)	12	Y/W(yellow/white)	17	G/Y(green/yellow)	22	Y/C(yellow/cyan)	27	RGB
3	GRN(green)	8	WHI(white)	13	P/W(purple/white)	18	G/C(green/cyan)	23	P/C(purple/cyan)	28	ALL(all color)
4	BLU(blue)	9	R/W(red/white)	14	C/W(cyan/white)	19	B/P(blue/purple)	24	R/G(red/green)	29	DMX decode
5	YLW(yellow)	10	G/W(green/white)	15	R/Y(red/yellow)	20	B/C(blue/cyan)	25	R/B(red/blue)	30	DMX mode

Display [DMX-SPI-203 Cycle] after 30 mode: Cycle play scene of 1-7.

In 2~28 modes, you can use the remote control to choose light changing types (JUMP, FLASH, SMOOTH, FADE , FLOW, CHASE, METEOR, FLOAT) and light moving directions(←, →,←→,→←), which compose 540 kinds of changing modes

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Instruction of DMX console in Mode 29

Function Modes	Channel	Function
29 DMX Decoder Mode	1st channel	0-255(R) : Red LED 0-100% dimming
	2nd channel	0-255(G) : Green LED 0-100% dimming
	3rd channel	0-255(B) : Blue LED 0-100% dimming

Instruction of DMX console in Mode 30

in **Mode 30**, when connected to DMX console, could use 6 channels to manage color, speed, brightness, types, direction and flash of all modes.

Channel	Function
CH1(0-223):	Select 1-28 modes.
CH2(0-255):	Adjust changing speed of mode 1-28(8 levels).
CH3(0-255):	Adjust brightness of mode 1-28 (8 levels).
CH4(0-255):	Select 8 changing types of mode 1-28 (jump, flash smooth, fade, flow, chase, meteor, float)
CH5(0-255):	Select 4 changing direction of mode 1-28 forward (↑) ,reverse (↓), close (↕), split(↕)
CH6(0-255):	Flashing speed option for mode 1-28

Channel	Function
CH1(224-255)	Select 29 mode.
CH2(0-255):	Red LED 0-100% dimming
CH3(0-255):	Green LED 0-100% dimming.
CH4(0-255):	Blue LED 0-100% dimming.

6. Wiring Diagram:

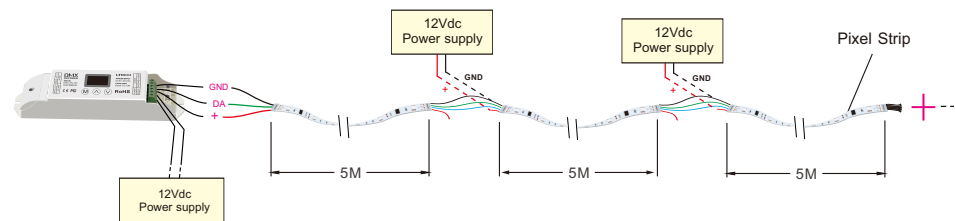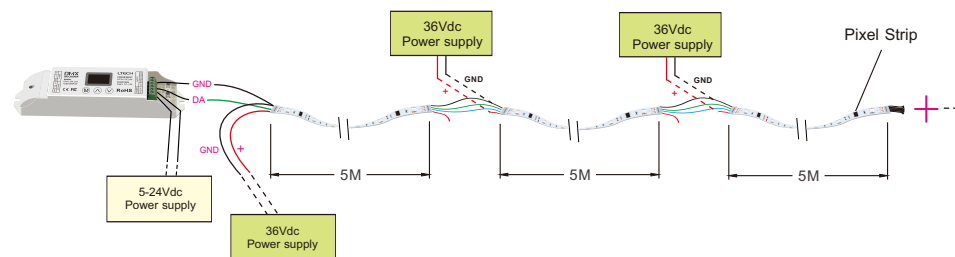| Wiring Method	Signal Cable	Compatible ICs
	Two cables DATA CLK	LPD6803, LPD1101, D705, UCS6909, UCS6912,LPD8803, LPD8806, WS2801, WS2803, P9813,GS8206(BGR), SM16703,APA102
	Single cable DATA	Tm1803, TM1804, TM1809, TM1812, UCS1903,UCS1909, UCS1912, UCS2903, UCS2909, UCS2912,WS2811, WS2812, TLS3001, TLS3002, APA104, KL592D, SK6812, TM1914, TM1914A

6.1 DMX-SPI-203 as master console:

LED Pixel Strip

DMX-SPI-203

6.2 Connection with DMX console:

LED Pixel Strip

DMX-SPI-203

Power Adapter

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6.3 LED pixel strip wiring diagram:

a. Conventional connection method.

12Vdc
Power supply

GND

12Vdc
Power supply

GND

Pixel Strip

12Vdc
Power supply

GND
DA
+

12Vdc
Power supply

5M   5M   5M

b. Light fixtures and controller using different operating voltages.

36Vdc
Power supply

GND

36Vdc
Power supply

GND

Pixel Strip

GND
DA

5-24Vdc
Power supply

GND +

36Vdc
Power supply

5M   5M   5M

6.4 Connected with DMX computer console to realize decoder function:

Artnet-DMX-8

DMX-SPI-203   DMX-SPI-203   DMX-SPI-203   DMX-SPI-203   DMX-SPI-203

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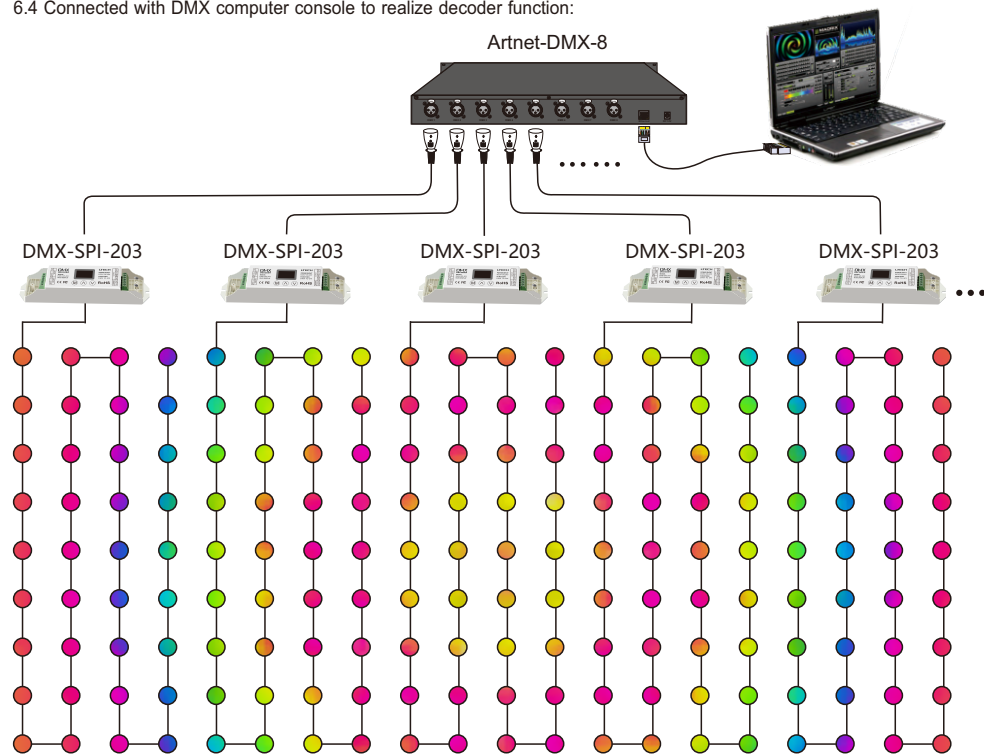
7. Attention:

1. The product shall be installed and serviced by the qualified person.

2. This product is non-waterproof. Please avoid the sun and rain. When installed outdoors please ensure it is mounted in a water proof enclosure.

3. Good heat dissipation will prolong the working life of the controller. Please ensure good ventilation.

4. Please check if the output voltage of the LED power supply used comply with the working voltage of the product.

5. Please ensure that adequate sized cable is used from the controller to the LED lights to carry the current. Please also ensure that the cable is secured tightly in the connector.

6. Ensure all wire connections and polarities are correct before applying power to avoid any damages to the LED lights.

7. If a fault occurs please return the product to your supplier. Do not attempt to fix this product by yourself.

8. Warranty Agreement:

1. We provide lifelong technical assistance with this product:

  ● A 5-year warranty is given from the date of purchase. The warranty is for free repair or replacement if cover manufacturing faults only.

  ● For faults beyond the 5-year warranty we reserve the right to charge for time and parts.

2. Warranty exclusions below:

  ● Any man-made damages caused from improper operation, or connecting to excess voltage and overloading.

  ● The product appears to have excessive physical damage.

  ● Damage due to natural disasters and force majeure.

  ● Warranty label, fragile label and unique barcode label have been damaged.

  ● The product has been replaced by a brand new product.

3. Repair or replacement as provided under this warranty is the exclusive remedy to the customer. LTECH shall not be liable for any incidental or consequential damages for breach of any stipulation in this warranty.

4. Any amendment or adjustment to this warranty must be approved in writing by LTECH only.

★This manual only applies to this model. LTECH reserves the right to make changes without prior notice.