

DMX-SPI-203 LED Controller



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 | • Control Qty: 1024 Pixels |
| • Power Consumption: 1W
(if the lamps are powered individual) | • Virtual Pixel: 1-6 times, Max 1024 pixel |
| • Output Signal: SPI(TTL) | • Working Temperature: -30°C ~ 55°C |
| • Change Mode: 540 | • Dimensions: L175×W44×H30(mm) |
| • DMX Channel: DMX Manage Mode: 6CH | • Package Size: L178×W48×H33(mm) |
| DMX Decode Mode: 510CH | • Weight(G.W.): 130g |

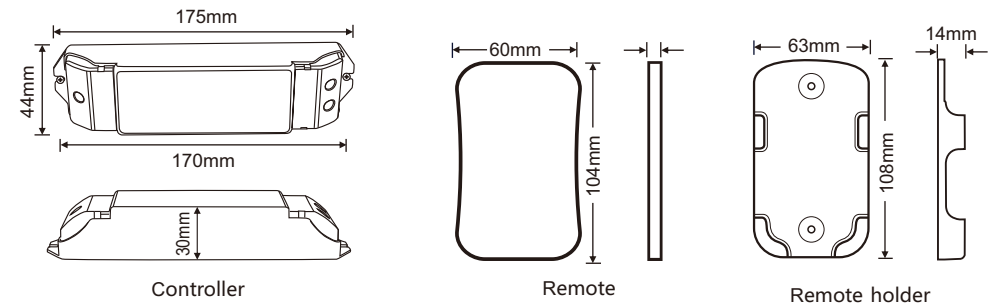
M203 Remote

- | | |
|---------------------------------------|-----------------------------------|
| • Working Voltage: 3V(battery CR2032) | • Working Temperature: -20°C~55°C |
| • Working Frequency: 2.4GHz | • Dimensions: L104×W58×H9(mm) |
| | • Weight(N.W.): 42g |

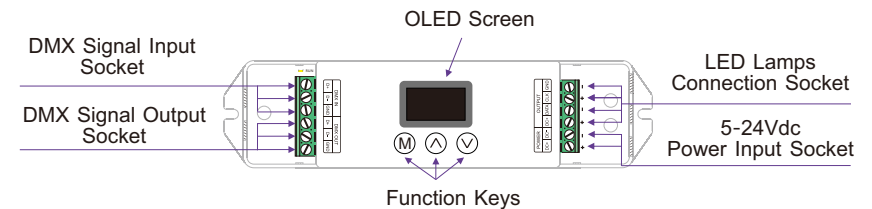
Package Dimensions: L228×W156×H35(mm)

Total Weight(G.W.): 240g

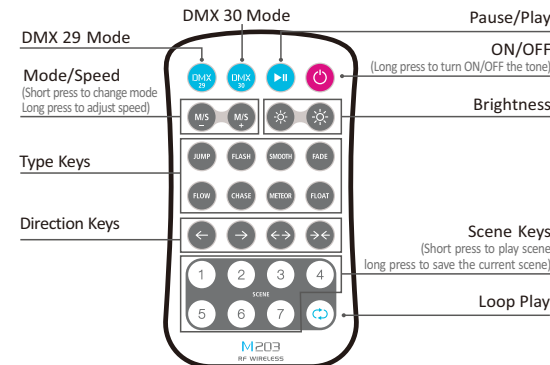
2. Product Dimension:



3. Terminal Description:



4. M203 Remote:



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 "A" or "V" button to enter remote learning interface: Press any key on the remote control to match with the controller.

Long press "A" or "V" 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 "A" or "V" key, adjust parameters.
Exit: Return to the previous menu.
Long press "M" key, return to the main display interface(Figure 1).

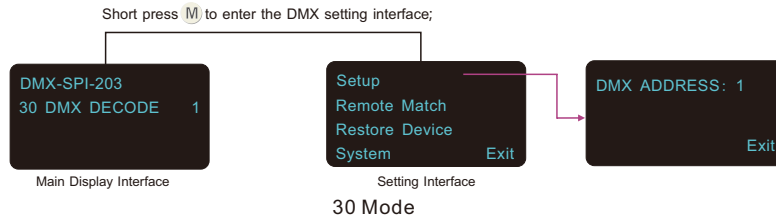
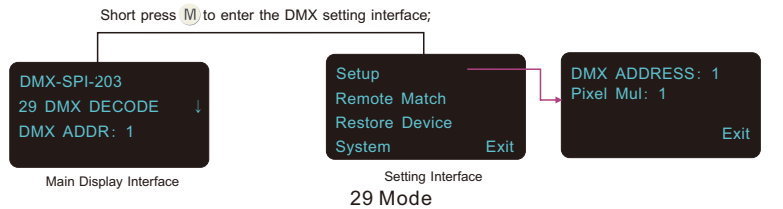
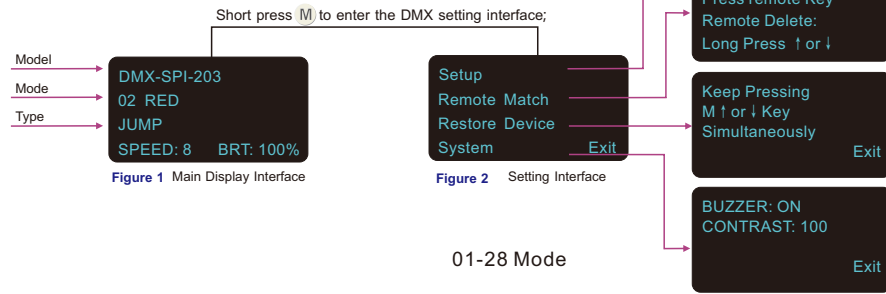


Table of Changing Modes

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)
2	RED(red)	7	GYN(cyan)	12	Y/W(yellow/white)	17	G/Y(green/yellow)	22	Y/C(yellow/cyan)
3	GRN(green)	8	WHI(white)	13	P/W(purple/white)	18	G/C(green/cyan)	23	P/C(purple/cyan)
4	BLU(blue)	9	R/W(red/white)	14	C/W(cyan/white)	19	B/P(blue/purple)	24	R/G(red/green)
5	YLW(yellow)	10	G/W(green/white)	15	R/Y(red/yellow)	20	B/C(blue/cyan)	25	R/B(red/blue)
								26	G/B(green/blue)
								27	RGB
								28	ALL(all color)
								29	DMX decode
								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

Instruction of DMX console in Mode 29

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

Instruction of DMX console in Mode 30

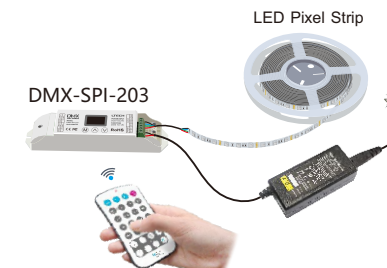
in **Mode 30**, when connected to DMX console, could use 6 channels to manage color, speed, brightness, types, direction and flash of all modes.

Channel	Function	Channel	Function
CH1(0-223):	Select 1-28 modes.	CH1(224-255)	Select 29 mode.
CH2(0-255):	Adjust changing speed of mode 1-28(8 levels).	CH2(0-255):	Red LED 0-100% dimming
CH3(0-255):	Adjust brightness of mode 1-28 (8 levels).	CH3(0-255):	Green LED 0-100% dimming.
CH4(0-255):	Select 8 changing types of mode 1-28 (jump, flash smooth, fade, flow, chase, meteor, float)	CH4(0-255):	Blue LED 0-100% dimming.
CH5(0-255):	Select 4 changing direction of mode 1-28 forward (↑), reverse (↓), close (X), split(⋈)		
CH6(0-255):	Flashing speed option for mode 1-28		

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:

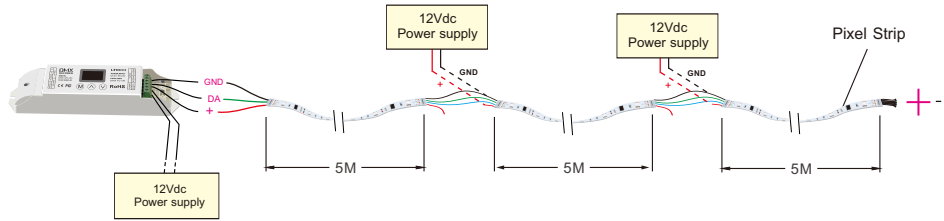


6.2 Connection with DMX console:

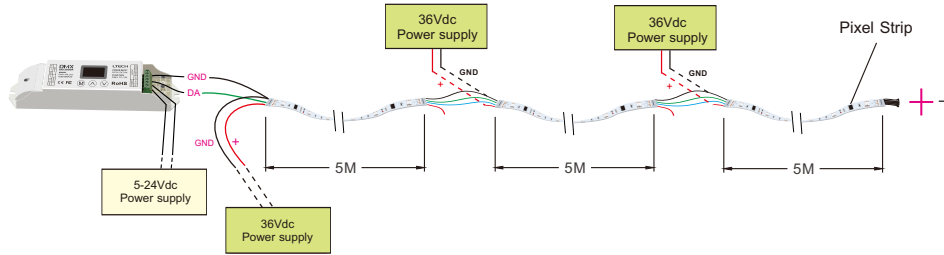


6.3 LED pixel strip wiring diagram:

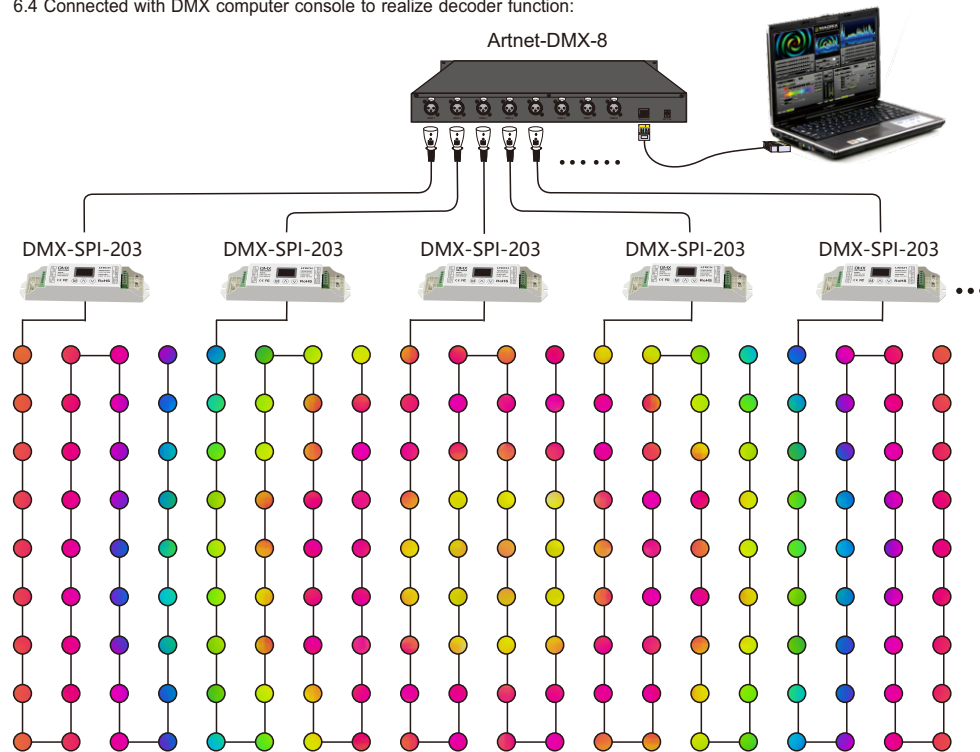
a. Conventional connection method.



b. Light fixtures and controller using different operating voltages.



6.4 Connected with DMX computer console to realize decoder function:



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.

DMX-SPI-203 LED 控制器



DMX-SPI-203可控制基于LPD6803, LPD1101, UCS6909, UCS6912, LPD8803, LPD8806, TM1803, TM1804, TM1809, TM1812, UCS1903, UCS1909, UCS1912, UCS2903, UCS2909, UCS2912, TLS3001, TLS3002, WS2801, WS2803, WS2811, WS2812, P9813, D705, 等相兼容IC驱动的LED灯具。

DMX-SPI-203控制器支持DMX512/1990国际标准协议接口, 具有DMX管理模式, 通过DMX512控台调用控制器内置功能, 可进行变化模式、变化速度等选择; 同时具备的DMX解码器模式, 通过控台编辑控制以上IC驱动的LED灯具。DMX控台可以控制到LED灯具的每一通道, 实现0-100%调光或编辑各种变化效果。

1. 产品参数:

DMX-SPI-203 控制器:

工作电压: 5~24Vdc	控制数量: 1024个像素
消耗功率: 1W(灯带电源另取时)	虚拟像素: 1-6倍, 最大1024像素
输出信号: SPI(TTL)	工作温度: -30℃ ~ 55℃
变化模式: 540种	产品尺寸: L175×W44×H30(mm)
DMX通道: DMX管理模式占6个通道	重量 (净重): 130g
DMX解码模式510通道	

M203 遥控器:

工作电压: 3V(battery CR2032)

工作频率: 2.4GHz

工作温度: -20℃~55℃

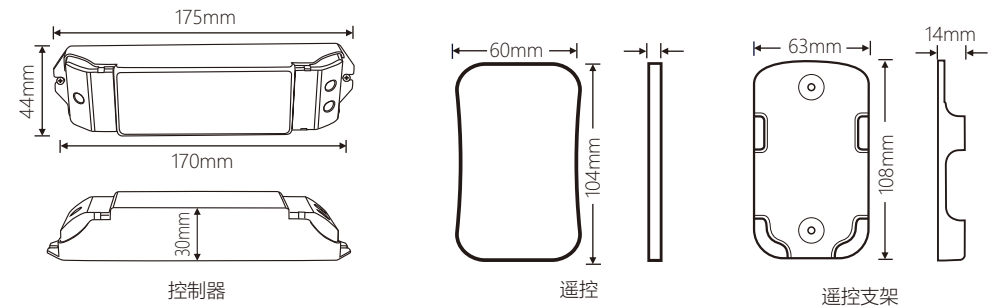
尺寸: L104×W58×H9(mm)

净重: 42克

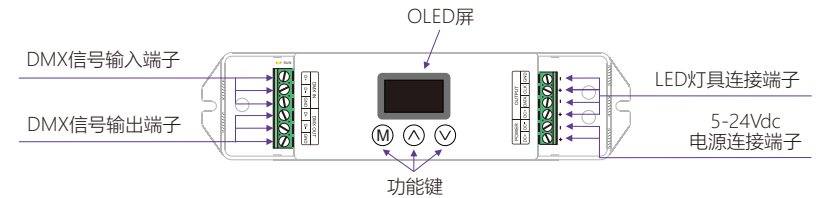
套装包装尺寸: L228×W155×H32(mm)

套装总重量: 240克

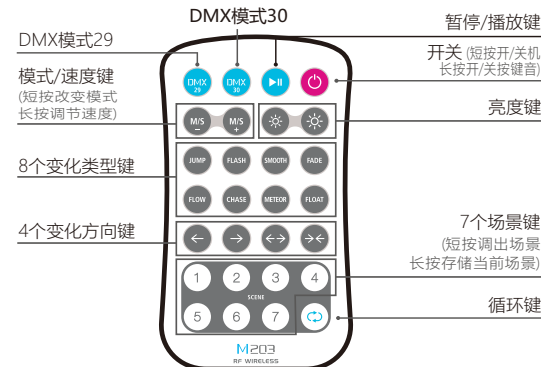
2. 产品尺寸:



3. 控制器端子说明:



4. 遥控按键说明:



遥控学习方法:

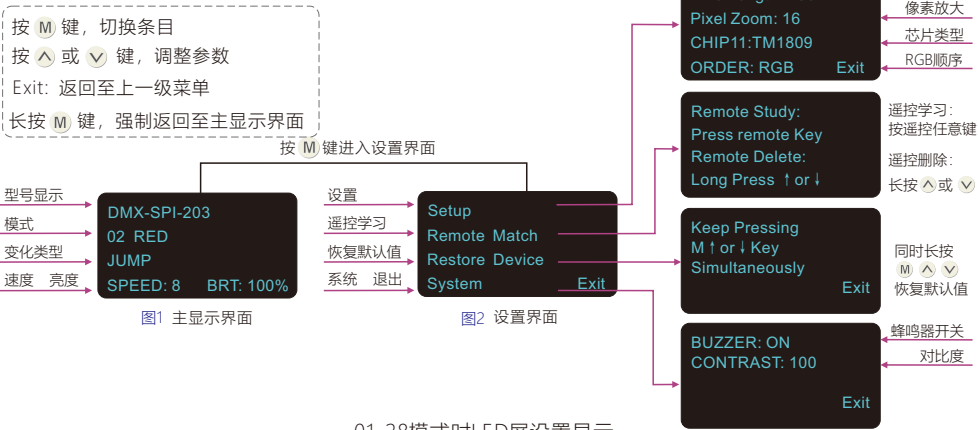
出厂遥控器与接收器已经配对好, 如果不慎删除了, 可以通过下面方法学习:

按控制器'M'键, 进入设置界面, 再按M键切换至'Remote Match'条目。

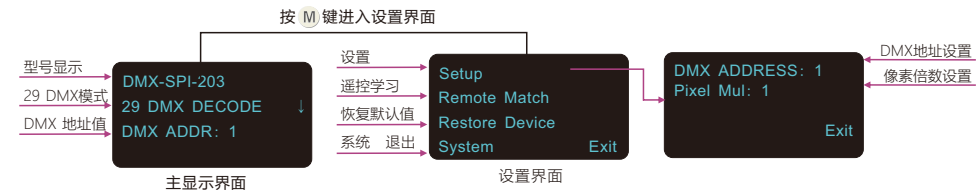
此时按控制器'^'或'v'键进入遥控学习界面: 按遥控上任意键, 学习遥控;

长按控制器上的'^'或'v'键, 删除ID。

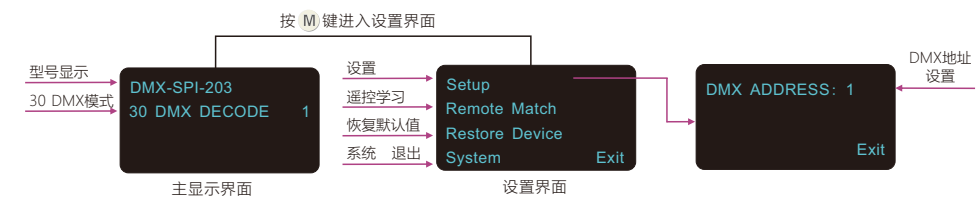
5. OLED屏界面说明:



01-28模式时LED屏设置显示



29模式时LED屏显示及设置



30模式时LED屏显示及设置

变化模式列表

序号	变化颜色	序号	变化颜色	序号	变化颜色	序号	变化颜色	序号	变化颜色	序号	变化颜色
1	BLA(黑)	6	PUR(紫)	11	B/W(蓝/白)	16	R/P(红/紫)	21	Y/P黄/紫	26	G/B绿/蓝
2	RED(红)	7	GYN(青)	12	Y/W(黄/白)	17	G/Y(绿/黄)	22	Y/C黄/青	27	RGB(红/绿/蓝)
3	GRN(绿)	8	WHI(白)	13	P/W(紫/白)	18	G/C(绿/青)	23	P/C紫/青	28	ALL (七彩)
4	BLU(蓝)	9	R/W(红/白)	14	C/W(青/白)	19	B/P(蓝/紫)	24	R/G红/绿	29	DMX解码
5	YLW(黄)	10	G/W(绿/白)	15	R/Y(红/黄)	20	B/C(蓝/青)	25	R/B红/蓝	30	DMX模式

30模式之后显示[DMX-SPI-203 Cycle]: 循环播放1-7键上的场景。
2到28模式时, 可用遥控器选择变化类型JUMP(跳变), FLASH(频闪), SMOOTH(渐变), FADE(渐明渐暗), FLOW(流水), CHASE(追逐), METEOR(拖尾), FLOAT(渐变追), 以及选择变化方向→, ←, →←, ←→可以组成多达540种变化模式。
速度和亮度的调整也是由遥控器来调整的。

模式29时DMX控制台的使用

功能模式	通道	功 能
29 DMX 解码模式	第一通道	0-255(R)红色LED 0-100%调光
	第二通道	0-255(G)绿色LED 0-100%调光
	第三通道	0-255(B)蓝色LED 0-100%调光

模式30时DMX控制台的使用

模式30时, 在连接DMX控制台状态下, 使用6个DMX通道管理全部模式的颜色、速度、亮度、类型、方向、频闪。

通道	功能
CH1(0-223):	1-28模式选择
CH2(0-255):	1-28模式变化速度(8级速度)
CH3(0-255):	1-28模式亮度调节(8级亮度)
CH4(0-255):	1-28模式变化类型: 跳变、频闪、渐变、渐明渐暗、流水、追逐、拖尾、渐变追
CH5(0-255):	1-28模式变化方向(4种方向) 向前(↑)、反向(↓)、合拢(↘)、中分(↙)
CH6(0-255):	1-28模式频闪速度(16级速度)

通道	功能
CH1(224-255):	29模式选择
CH2(0-255):	红色 0-100%亮度调整
CH3(0-255):	绿色 0-100%亮度调整
CH4(0-255):	蓝色 0-100%亮度调整

6. 接线图:

接线方式	信号线	支持芯片型号
	2线 DATA CLK	LPD6803、LPD1101、D705、UCS6909、UCS6912、LPD8803、LPD8806、WS2801、WS2803、P9813、GS8206(BGR)、SM16703、APA102
	单线 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为主控连接灯条:

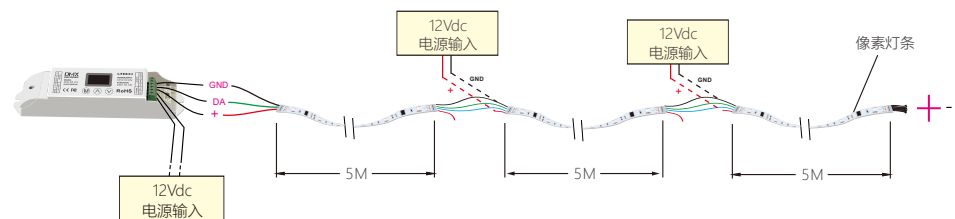


6.2 与DMX控制台连接图:

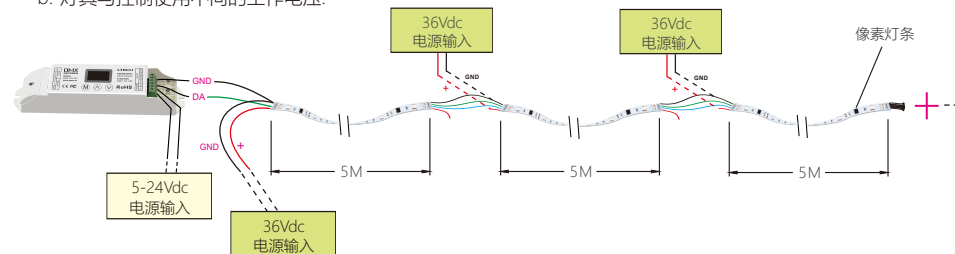


6.3 LED像素灯连接图:

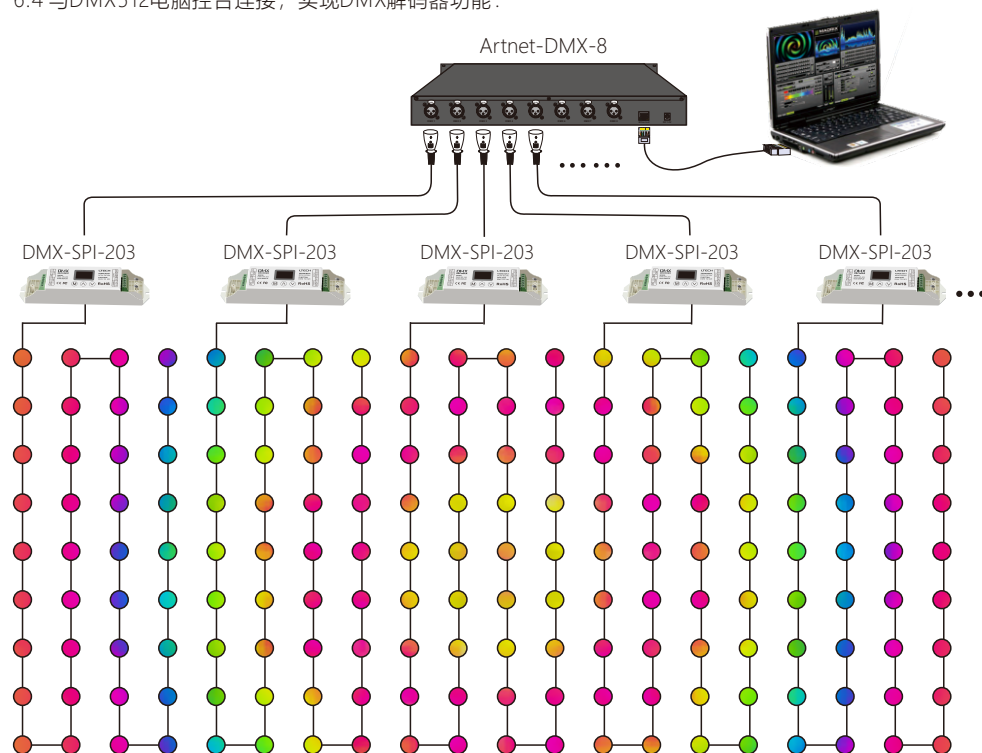
a. 一般连接方式.



b. 灯具与控制使用不同的工作电压.



6.4 与DMX512电脑台连接, 实现DMX解码器功能:



7. 注意事项:

- 1、本产品请由具有专业资格的人员进行调试安装。
- 2、本产品不能防水, 需避免日晒雨淋, 如安装在户外, 请用防水箱。
- 3、良好的散热条件会延长LED控制器的使用寿命, 请把产品安装在通风良好的环境。
- 4、请检查使用的LED电源输出电压是否符合产品电压范围要求。
- 5、使用的电线直径大小必须能足够负载连接的LED灯具, 并确保接线牢固。
- 6、通电调试前, 应确保所有接线正确, 以避免因接线错误而导致灯具损坏。
- 7、如果发生故障, 请勿私自维修; 如果有疑问, 请联系供应商。

8 保修协议:

1. 购买雷特LED控制器产品享受终身技术支持和保修服务:
 - 免费保修: 自购买之日起五年内出现产品质量问题雷特将给予免费修理或更换服务。
 - 有偿保修: 超过免费保修期的产品收取适当的维修材料成本费用。
2. 以下情况不在免费保修或更换服务范围之内:
 - 过高电压、超负载、操作不当等人为造成的损坏;
 - 产品外形严重损坏或变形;
 - 自然灾害以及人力不可抗拒原因造成的损坏;
 - 产品保修标签和产品唯一条形码损坏。
 - 产品已经更新换代。
3. 修理或更换是雷特对客户的唯一补救措施。雷特不承担任何附带引起的损害赔偿。
4. 只有雷特享有修正或调整本保修条款的权利, 并以书面形式发布认定为准。

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