LT-DMX-1809
DMX-SPI Signal Decoder

FC CE RoHS warranty 5 years ISO9001:2008

LT-DMX-1809 converts the universal standard DMX512 signal into SPI(TTL) digital signal to drive LEDs with compatible driving IC, it could control every channel of the LED lights, realize 0~100% dimming or editing all sorts of changing effect.

DMX-SPI decoder are widely used in LED flashing word string light, LED dot light, SMD strip, LED digital tubes, LED wall light, LED pixel screen, Hi-power spotlight, flood light, etc.

1. Product Parameter:

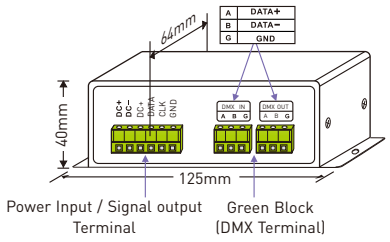
LT-DMX-1809

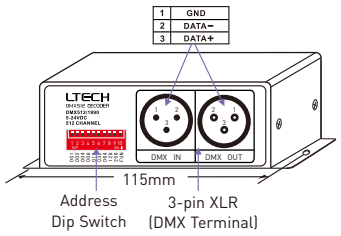
Input Signal:	DMX512	Dimming Range:	0~100%
Input Voltage:	5~24Vdc	Working Temperature:	-30℃~65℃
Output Signal:	SPI	Dimensions:	L125×W64×H40(mm)
Decoding Channels:	512 Channels/Unit	Package Size:	L135×W70×H50(mm)
DMX512 Socket:	3-pin XLR, Green Terminal	Weight (G.W.):	300g

Compatible with WS2811/WS2812/WS2812B, UCS1903/UCS1909/UCS1912/UCS2903/UCS2909/UCS2912 TM1803/TM1804/TM1809/1812/GS8206(BGR)/SM16703 driving IC.

Note: grey level from best or worst depend on the IC types, it is nothing with the LT-DMX-1809 decoder performance.

2. Configuration Diagram:

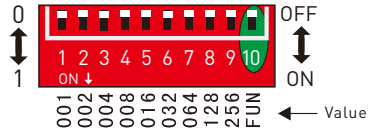




3. Output Port Definition:

No.	Port		Function
1	Power Supply Input Port	DC+	5-24Vdc LED power supply input
		DC-	
2	Output Port Connect LED	DC+	LED power supply output anode
		DATA	Data cable
		CLK	Clock cable (N/A)
		GND	Ground cable (DC-)

4. Dip Switch Operation:



4.1 How to set DMX address via dip switch:

FUN=OFF (the 10th dip switch=OFF) DMX Mode

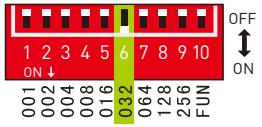
The Decoder enter into DMX control mode automatically when receiving DMX signal.

Like figure upward: FUN=OFF is high speed(upward), FUN=ON is low speed (downward)

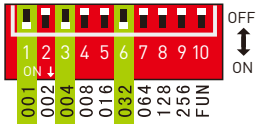
1. The driving chip of this decoder has option for high and low speed(800K/400K), please choose the suitable speed according to the design of your LED lights, in most cases, it is high speed.

2. DMX address value = the total value of (1-9), to get the place value when in "on" position, otherwise will be 0.

E.g.1: Set Initial Address To 32.

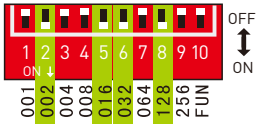


E.g.2: Set Initial Address To 37.



001+004+032=37

E.g.3: Set Initial Address To 178.

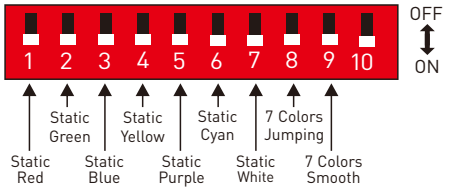


002+016+032+128=178

4.2 Self-testing Mode:

When no DMX signal, Self-testing Mode

Dip Switch	1-9=off	1=on	2=on	3=on	4=on	5=on	6=on	7=on	8=on	9=on
Self-test Function	Static Black	Static Red	Static Green	Static Blue	Static Yellow	Static Purple	Static Cyan	Static White	7 Colors Jumping	7 Colors Smooth



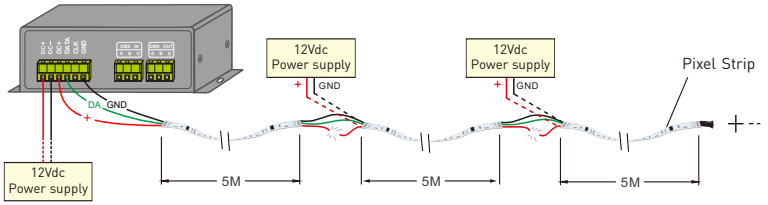
For changing effects (Dip Switch 8/9=ON): DIP switch 1-7 is used to realize 7 speed levels. (7=ON, the fastest level)

[Attn] When several dip switches are ON, subjected to the highest switch value.
As the figure above shows, the effect will be 7 colors smooth at 7 speed level.

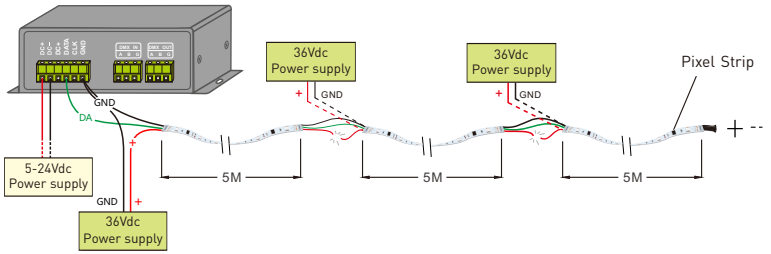
5. Wiring Diagram:

5.1 LED pixel strip wiring diagram.

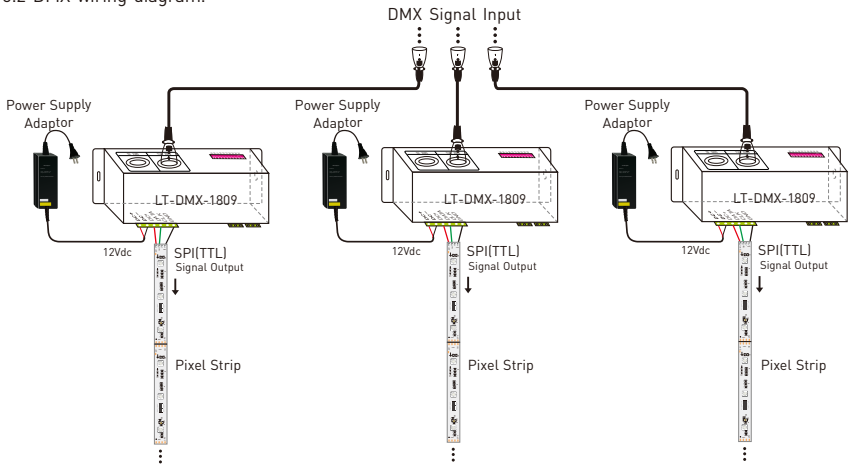
A. Conventional connection method.



B. Special connection method - light fixtures and controller using different operating voltages.



5.2 DMX wiring diagram.



✻ An amplifier is needed when more than 32 decoders are connected, signal amplification should not be more than 5 times continuously.

6. Attention:

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

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

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

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

6.5 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.

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

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

7. Warranty Agreement:

7.1 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.

7.2 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.

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

7.4 Any amendment or adjustment to this warranty must be approved in writing by our company only.

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

LT-DMX-1809
DMX-SPI信号解码器

FC CE RoHS 质保5年 ISO9001:2008

DMX-SPI信号解码器是将DMX512数字信号转换为SPI（TTL）数字信号，可以用DMX数字控台控制基于兼容的LED驱动IC设计的LED数码灯具产品， DMX数字控台可以控制到LED灯具的每一通道，实现0-100%调光或编辑各种变化效果。

DMX-SPI解码器广泛使用在LED发光字灯串、LED点光源、SMD追光软灯条、LED护栏管、幕墙灯、像素屏、大功率投光灯、洗墙灯等各种LED数码灯具。

一、性能参数:

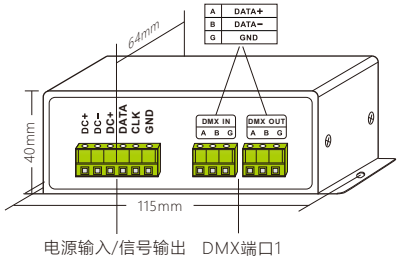
LT- DMX-1809

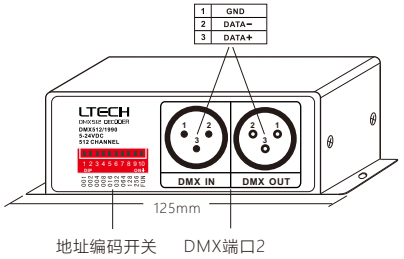
工作电压：	5~24Vdc	调光范围：	0-100%
输入信号：	DMX512	工作温度：	-30℃~65℃
输出信号：	SPI	产品尺寸：	L125×W64×H40mm
解码通道数：	512通道/台	包装尺寸：	L135×W70×H50mm
DMX512插座：	3针XLR，绿色端子	重量（毛重）：	300克

兼容LED IC：TM1803, TM1804, TM1809, TM1812, UCS1903, UCS1909, UCS1912, UCS2903, UCS2909, UCS2912, WS2811,WS2812, WS2812B,GS8206(BGR), SM16703.

注： 灰度等级的高低由灯的IC型号决定，与LT-DMX-1809解码器的性能无关。

二、结构图:

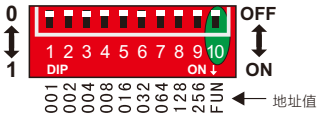




三、端子定义:

No.		端口	功能
1	供电电源输入端口	DC+	5-24Vdc LED电源输入
		DC-	
2	输出端连接灯具	DC+	灯具电源正极
		DATA	数据线
		CLK	时钟线 (本型号不用该信号线)
		GND	地线 (也是灯具电源负极)

四、解码器地址设置:



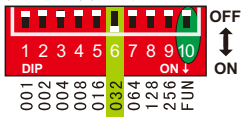
用拔码开关设置首地址:

当解码器接收到DMX信号输入的时候, 解码器自动进入DMX控制模式 FUN=OFF 是高速档(向上) FUN=ON 是低速档(向下)

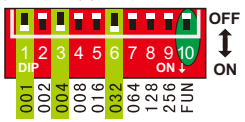
1、本解码器兼容的LED驱动IC有高低速选择（800K/400K), 使用的时候要根据灯具的设计选择正确, 一般选择高速为多。

2、DMX512起始地址码=编码开关1=9位的位值总和, 将编码开关拨向下ON可获得该位的位值; 编码开关拨向上OFF, 则该位的位值为0。

例1: 设置首地址为32。

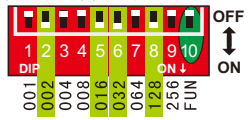


例2: 设置首地址为37。



001+004+032=37

例3: 设置首地址为178。

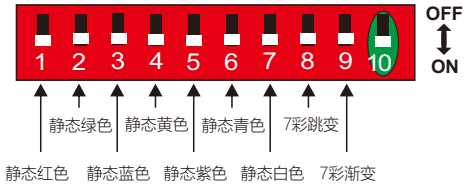


002+016+032+128=178

五、测试功能:

当解码器接没有DMX信号的时候,进入自测模式

拔码开关	1-9=off	1=on	2=on	3=on	4=on	5=on	6=on	7=on	8=on	9=on
自测模式	静态黑色	静态红色	静态绿色	静态蓝色	静态黄色	静态紫色	静态青色	静态白色	7彩跳变	7彩渐变



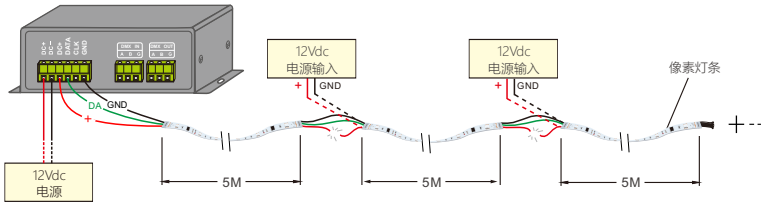
拔码开关8/9=ON时，为动态效果:
拔码开关1-7 可用于调节速度(7=ON, 为最快速度)。

[注] 当多位拔码开关为ON时, 以高位为准（如上图所示，表现为7级速度的7彩渐变）。

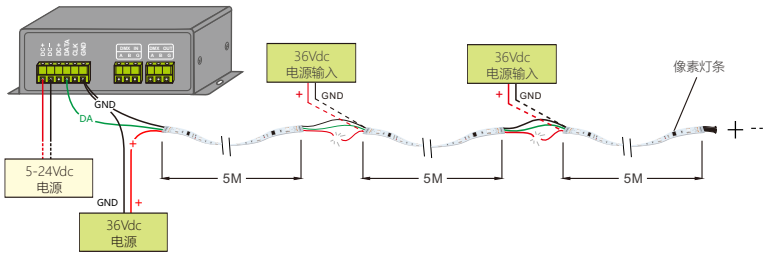
六、连接示意图:

6.1 像素灯条连接示意图

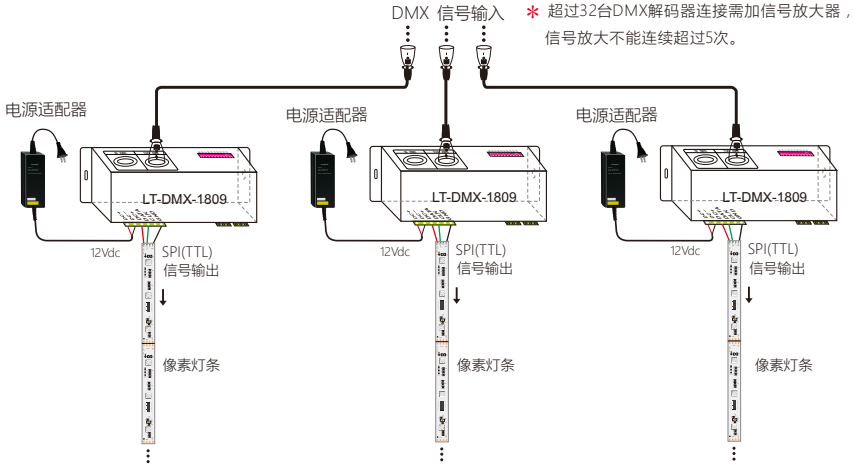
A. 一般连接方法.



B. 特殊连接方法 - 灯具和控制器使用不同的工作电压.



6.2 DMX连接示意图



七、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。

八、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责任。
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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