

LT-DMX-2801 DMX-SPI Signal Decoder

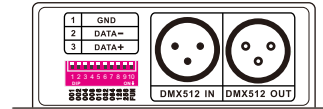


LT-DMX-2801 decoder works to convert universal DMX512 signal into SPI signal, suitable for LED lights based on chips such as WS2801 chip support 256 grey scales only needs two signal cables which convenient for design and installation of LED lights. These 4 chips are widely used among LED dot light, SMD strip, LED hurdle lamp, LED wall, LED pixel screen, hi-power flood light and LED wall washer, etc.

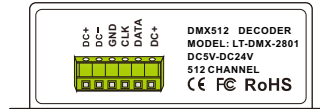
1. Product parameter

LT- DMX-2801	
Input voltage	DC5V~DC24V
Input Signal	DMX512/1990
Output signal	WS2801 driving IC
Decoding Channels	512 channels/unit
Output Grey Scale	256 levels/CH (8bit/CH)
DMX512 Connector	Standard XLR-3 Connector
Product Dimension	L125×W52×H40mm
Package Size	L135×W70×H50mm
Working temperature	-30°C~65°C
Weight (G.W)	300g

2. Configuration Diagram



DMX signal input port



The Port of connecting Power supply & LED light

3. Output Port definition

No.	Silk screen	Function
1	DC+	LED power supply input anode
2	DC-	LED power supply input cathode
3	GND	Ground wire (DC-)
4	CLK	Clock cable
5	DATA	Data cable
6	DC+	LED power supply output anode

⚠ Attention: The power supply DC+ cannot connect to data cable and CLK port. otherwise it will damage the decoder and the LED's driving IC.

4. How to set DMX address via dip switch

When FUN=OFF, Decoder is DMX controlling mode, When FUN=ON, Decoder is self-test mode.

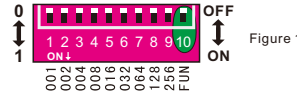


Figure 1

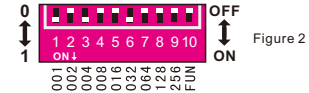


Figure 2

1, Set DMX512 original address

Address										
specification										
DIP	1	2	3	4	5	6	7	9	10	
Address	001	002	004	008	016	032	064	128	256	FUN

1. This decoder occupies 3 addresses, adopted Dip switch to set the address, the Dip switches from 1 to 9 are a kind of binary value coding switches used to set DMX512 initial address code, the correlative bits in the 1-9 bits of the DIP switch, the 1st bit is LSC, the 9th bit MSC, 511 addresses totally
 2. DMX512 initial address code is equal to the total amount of the Dip switches' number from 1 to 9, press Dip switch downward(ON.: at position "1"), user can get the number of its position, if pressing upward(at position"0"), the number of its position is 0.



For example, Set to 37

As figure 2, set the 6th, 3rd, 1st bit of the DIP switch downward to "1", others to "0", the total sum from 1 to 9 is 32+4+1, so the DMX512 initial address code is 37.

2. Testing function:

Figure 3

Figure 4

As figure 3, the 10th DIP switch is FUN, acting as the function key 1-9DIP switch=OFF: BLACK

DIP1	DIP2	DIP3	DIP4	DIP5	DIP6	DIP7	DIP8	DIP9
Red	Green	Blue	Yellow	Purple	Cyan	White	COLOR JUMPING	COLOR SMOOTH

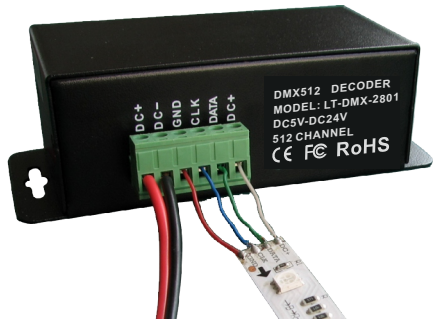
When decoder is at testing mode, DIP switch 8 is at "ON", it is the 7 color jumping, when DIP switch 9 is at "ON", it is the 7 color smooth, with 8 speed levels for each effect.

DIP 1	DIP 2	DIP 3	DIP 4	DIP 5	DIP 6	DIP 7
Speed 1	Speed 2	Speed 3	Speed 4	Speed 5	Speed 6	Speed 7

Like figure 4, when several DIP SWITCH at "ON" at the same time, comply with the largest value switch, the testing function is when FUN=ON, DIP SWITCH 8&9 for the color changing function, DIP SWITCH 1-7 for the speed function, comply with the largest value switch, SPEED 7 is the fastest speed.

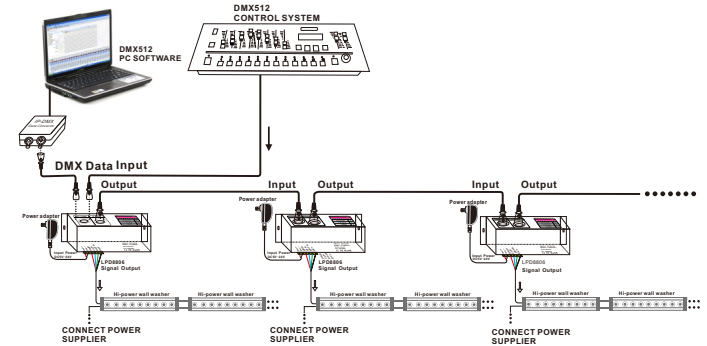
5. Configuration Diagram

1. LED point source conjunction diagram



Notice: When use DMX512 protocol, In order to ensure the accuracy and stability on signal transmission. Need to weld a minitype metal film terminal resistor with 90~120Ω 1/4 W between 2 and 3 base (signal positive and signal negative) of each channel DMX signal cable's most end according to DMX512 protocol specification. The volume of the impedance should refer to the manual of DMX dimming console you are using.

2. LED wall washer conjunction diagram



6. Attention

- The product shall be debugged and installed by professional persons.
- This product is non-waterproof, please avoid the sun and rain. Put it in a water-proof box if install outdoor.
- Good condition of heat dissipation will prolong the working life of controller, please install the product in a good ventilated condition.
- Please check if the output voltage of the LED power supply comply with the voltage range of the product.
- The diameter of adopted cable should load enough connected LED light. Ensure a solid connection in order to avoid triggering accident result from poor contact or cable overheat.
- Ensure all wire connection are correct before power debugging, which is to avoid lamps to be burnt because of wrong connection.
- Please do not maintain it by yourself if any fault, please contact your supplier if any question.

7. Warranty Agreement

- We provide lifelong technical assistance with this product:
 - A 3 year warranty is given from the date of purchase. The warranty is for free repair or replacement and covers manufacturing faults only.
 - For faults beyond the 3 year warranty we reserve the right to charge for time and parts.
- 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.
- 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.
- 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.