

Wide Low Input Voltage DMX512 Decoder

User Manual



Picture for illustration only

High Power DMX Decoder & Driver

Model No.: PX24500 (wide input voltage, constant voltage output)

Meets DMX 512/1990 Protocol

PX24500 can drive 5A (Each Channel)

Capable of driving many kinds of RGB LED lamps and luminaires



INTRODUCTION

Thank you for choosing PX24500 DMX512 decoder. With advanced micro-computer control technology, PX24500 convert the widely used DMX512/1990 signal to analog signal. It allows user to choose 1~3 output channel, 256-level brightness control. This compact decoder connects to light console and analog device, RGB LED lamps or lighting & building lamps allowing its user to create endless possibilities of light shows.

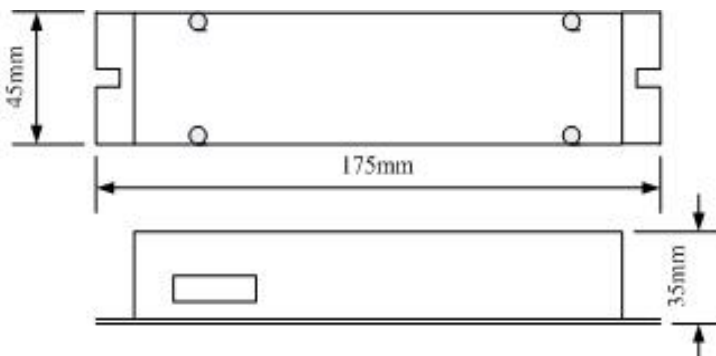
FEATURES

- ◆ Meets DMX512/1990 Protocols. Also compatible to DMX512a protocols.
- ◆ 256-level brightness, full-color control
- ◆ 3 output channels
- ◆ PX24500 can drive 5A current (each channel)
- ◆ Compatible with any DMX512 controller to produce perfect lighting effects.
- ◆ Capable to drive 1 - 3 channel of lamps
- ◆ Can set the DMX addresses freely
- ◆ Indicator light of each channel state within (optional)
- ◆ Modular design, can be combined with LED luminaires neatly
- ◆ Low input voltage, safe to operate.
- ◆ Custom-made size is available

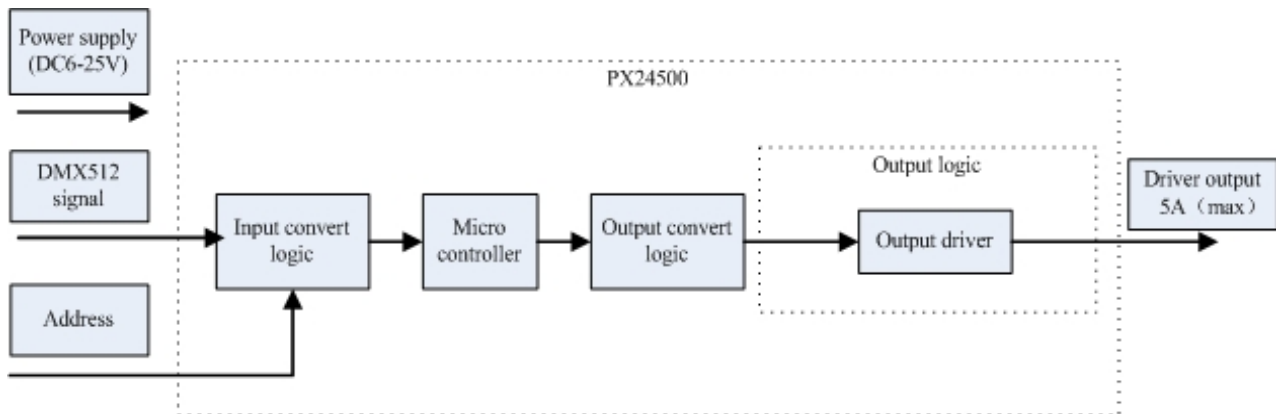
TECHNICAL CHARACTERISTICS

Decode Channel:	1~3
Input Signal:	DMX-512/1990 digital signal
Output Signal:	0~24V PWM signal
Power Supply:	6~25V DC
Power Output	<360W
Power Dissipation:	<1W
Operating Temp.:	0~70°C
Size:	175mm X 45mm X 35mm, Custom size available
Weight:	≤300g

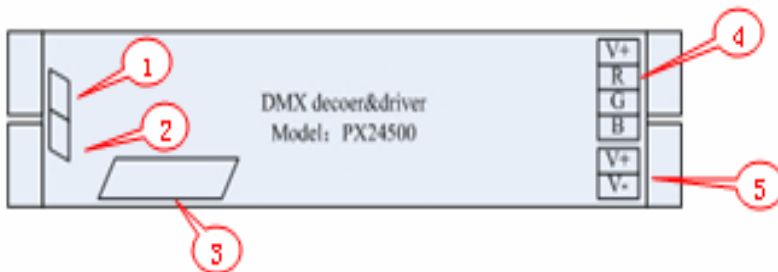
DIMENSION



INTERNAL BLOCK DIAGRAM (Example: PX24500)



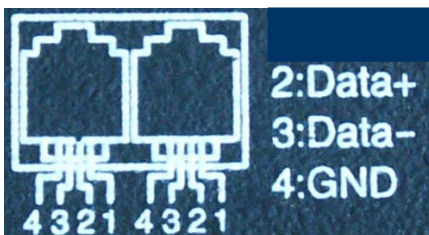
APPEARANCE



- (1) DMX signal input interface (RJ11)
- (2) DMX signal output interface (RJ11)
- (3) Address setting interface
- (4) Driver output interface
- (5) Power input interface

INTERFACE INTRODUCTION

◆ DMX signal interface



- 1: No Connection
- 2: Data +
- 3: Data -
- 4: Ground

◆ Address setting interface

Please find the detailed instruction for Address setting at Page 5.

◆ Power input interface

DC 6-25V input for decoder and lamp

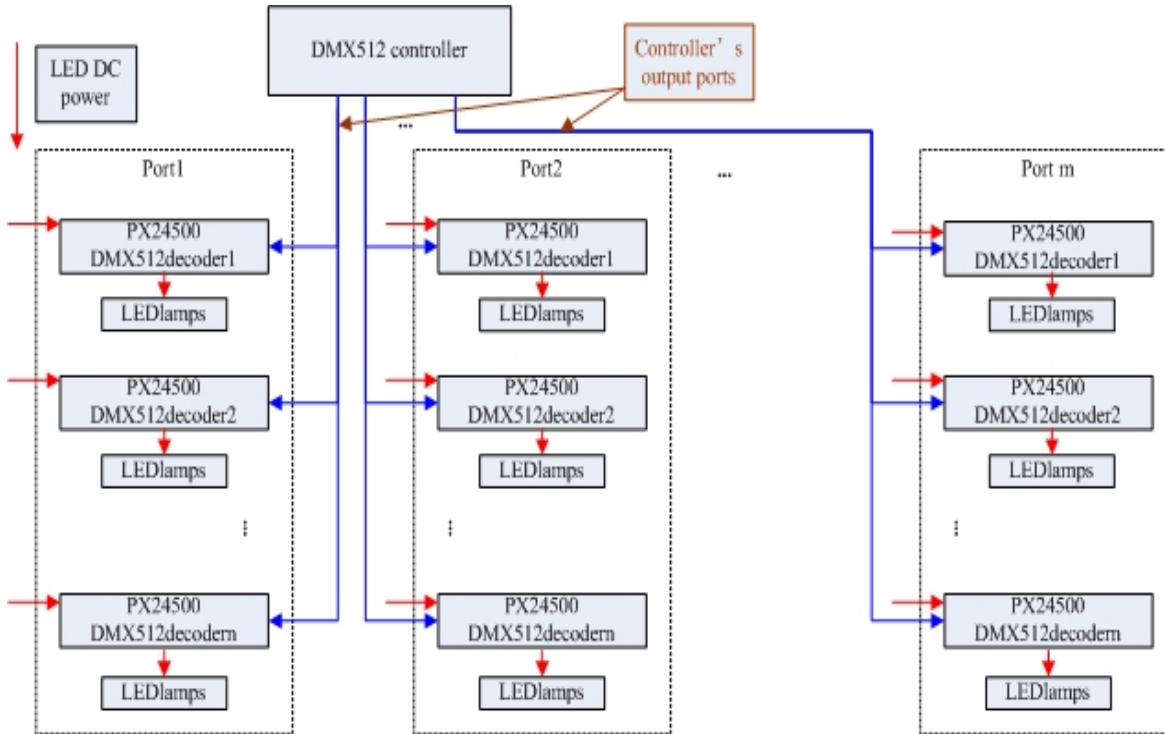
◆ Driver output interface

Common anode, V+ and R,G,B interface, can drive kinds of RGB module or single-color module, Can regulate output current according to the actual load

HOW TO USE

PX24500 is controlled by DMX-512 digital signal. The frontage is DMX512 transmitter, take EC-DMX512 for example, to control 0~24V analog devices.

The connection is below:

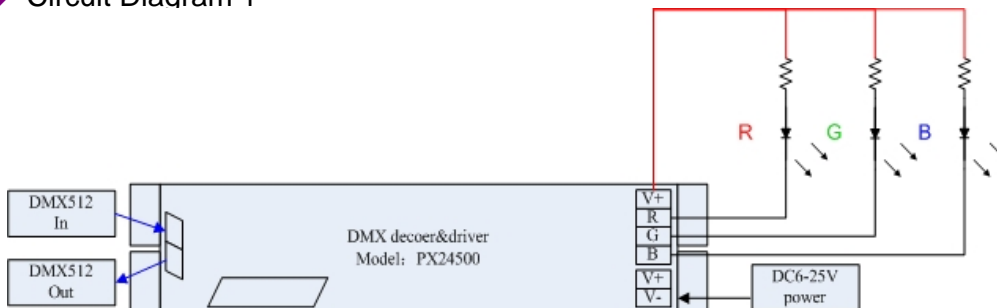


Notes:

- 1.m is the amount of controller output port
 - 2.n is the max. amount of terminals for each port
- The upwards is according to controller

TYPICAL APPLICATIONS (RGB LED)

◆ Circuit Diagram 1



Connection of DMX-512 Signal

- ◆ The wire for DMX signal is STP, the DMX signal has positive and negative signal. Pay attention to the polarity while soldering. Connect the positive signal, negative signal and GND to the corresponding signal of PX24500.
- ◆ Connect a signal terminal at the end of the whole connection.

Power Rating Calculation

This product has a wide input/output voltage(DC 6-25V), it's rating current is 5A, so the rated power is different in different input voltage, for example:

Rating power in 12V: $12V \times 5A \times 3 = 180 W$

Rating power in 24V: $24V \times 5A \times 3 = 360 W$

DMX-512 Address Setting

The DIP switch on PX24500 can set the binary value of the DMX512 address to receive data.

The correlative bits is the 1-9 bits of the DIP switch, the 1st bit is LSB, the 9th bit MSB 512 addresses totally. The start address is the number of the first channel of the decoder, the second channel will receive the data of start address+1, and the third channel will receive the data of start address+2. There are two way to find out the relation between the DIP switch and DMX address.

Calculation Method:

calculational formula: [the sum of 1~9 bit of the DIP switch] + 1 = DMX start address

Set the n(th) bit of the DIP switch up (set to "1") to get the value of such bit;

Set the n(th) bit of the DIP switch down "0", so the value of this bit is 0.

Note: the 10th bit is not use.

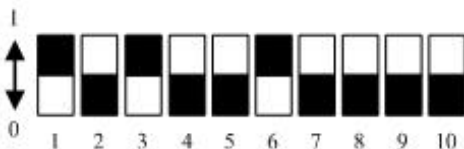
DIP

DIP	1	2	3	4	5	6	7	8	9
Value	1	2	4	8	16	32	64	128	256

Example 1: Set to 38

Set the 6th,3rd,1st bit of the DIP switch to "1", others set to "0", then the sum of the 1~9 is $32+4+1$, then add 1 to it, is the start address 38.

That is: $[32 + 4 + 1] + 1 = 38$



Example 2: Set to 226

Set the 8th, 7th, 6th, 1st bit to "1", others set to "0", then the sum of the 1~9 is $128+64+32+1$, then add 1 to it, is the start address 226.

That is: $[128 + 64 + 32 + 1] + 1 = 226$



DMX-PX Series Rev. 1.0c

Specifications are subject to change without notice.

Copyright © 2006 Brilliance Technologies Co., Ltd. All rights reserved