PRODUCT SPECIFICATION

High Power DMX Decoder&driver

Model：PX403(RJ45 INTERFACE)

Meets DMX512/1990
MAX 5A/CH Output
Apply to all kinds of LED Driver

SUMMARIZE

Thank you for using PX series of DMX512 Decoder. PX series adopt the advanced micro-computer control technology, it converts the DMX-512/1990 standard digital signal adopted widely in international to the analog control signal.Output 1~4 Channels for option and each channel able to achieve 256 levels of brightness controlling,and also it can be used as the connector of PC digital-light controller and analog light modulator. It is mainly used for the controlling of buildings & lights applied LED.

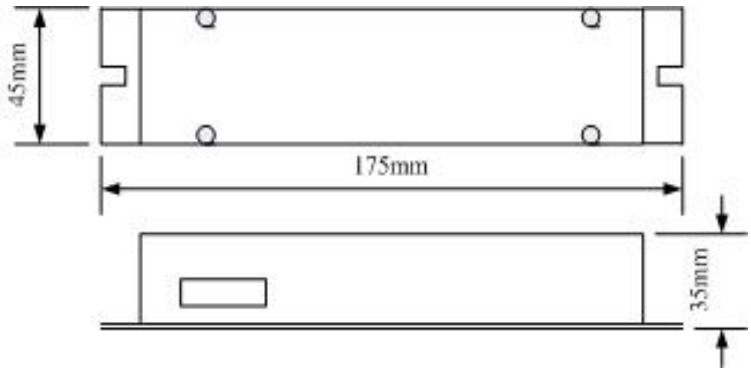
Prouuct Features

- Meets DMX512/1990
- 256-levels brightness,full-color with dirver controls
- Output 4 channels，max 5A per channel.
- Can achieve asynchronous color changes effect under working with controller.
- With the light color selected mechanism, and be able to control the light with 1~4 colors;
- Setting the DMX address freely
- Modularizing and can be matched with different LED module neatly
- Custom-made

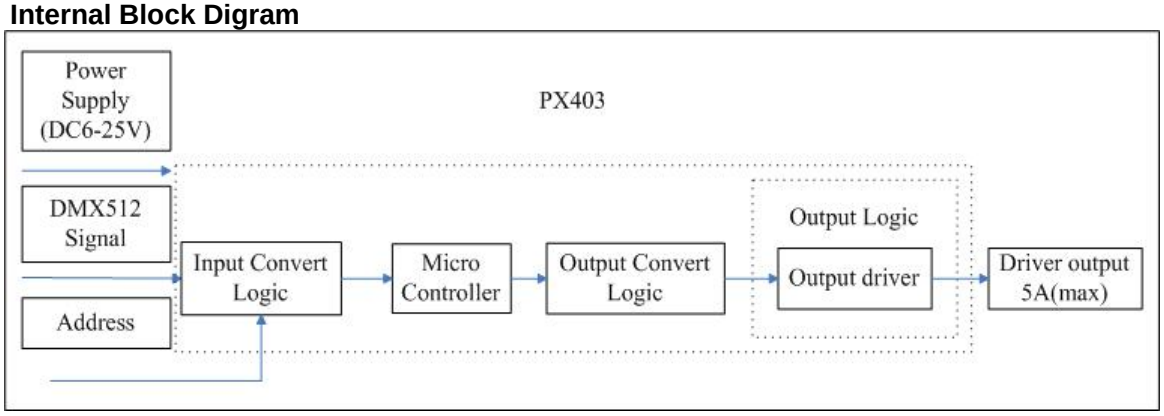
Tech-parameter

Decode CH.	1-3 CH
Signal Input：	DMX-512/1990 Digital signal
Signal output：	0~24V, Max 5A per CH
Power supply：	AC，+12~25V
Power Dis.：	<1W
Power output：	<280W
Work Temp.：	0~70℃
Size：	175(mm)*45(mm)*35(mm) /Custom-made
Weight：	≤300g

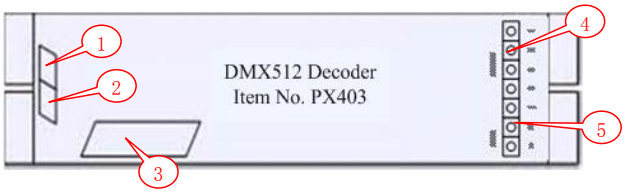
DIMENSION



Internal Block Digram



Appearance

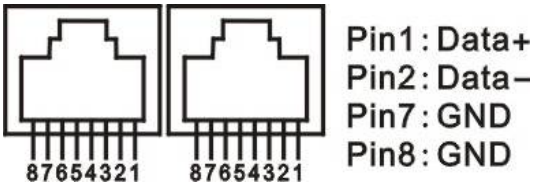


(1) DMX signal input interface(RJ45)
(2) DMX signal output interface(RJ45)
(3) Address setting interface
(4) Driver output interface
(5) Power input interface

Interface Introduction

- DMX signal interface

RJ45



- Address code setting on/off
  Please see the operating instruction details as next page.

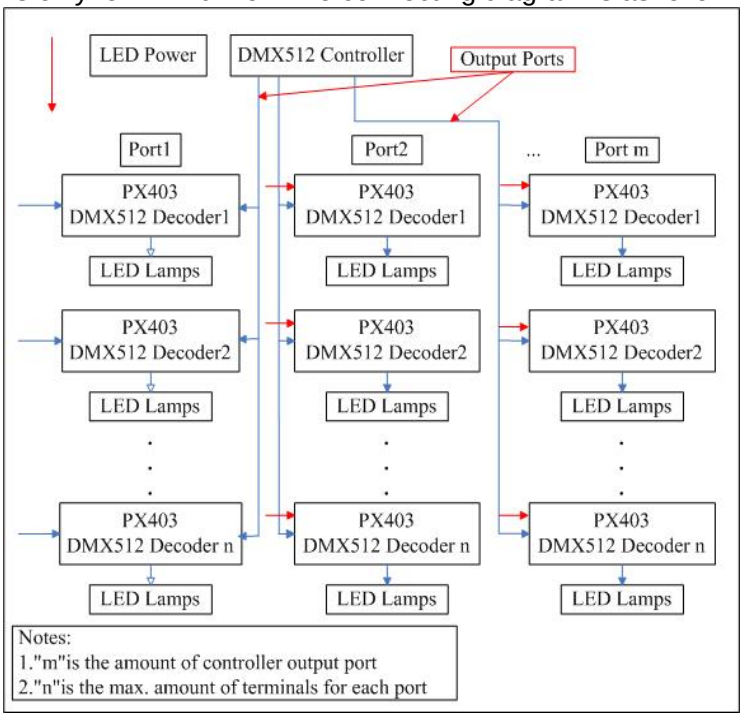
- Power Input Interface
  DC 12~25V input，supplied power with the decoder and the lamps it takes.

- 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.

Remark:
Connect the anode and RGB wire of common anode RGB module to the output interface of deoder directly;
Connect the anode wire of single-color module to V+ on decoder,and connect the cathode wire to one of RGB pin according to the LED's color; Connect several colors single-color module to one decoder,please connect their anode wires to V+ pin on decoder.

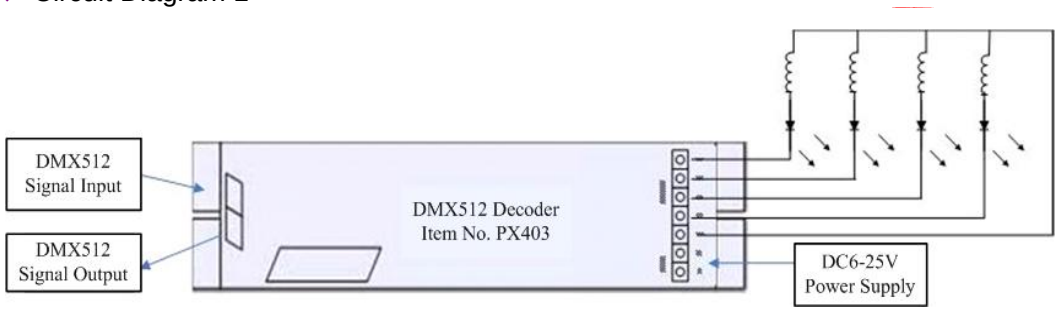
Operating instruction

PX403 Decoder is controlled by DMX-512, and its fore-end connect with the DMX512 signal transmit device Take EC-DMX512 for example, its rear-end can connect with 0~24V circuit signal device. This instruction is only for LED driver. The connecting diagram is as following.



TYPICAL APPLICATIONS

- Circuit Diagram 1



Connecting of DMX-512 Signal Cable

- DMX signal cable used the CAT-5 cable，and DMX signal tells positive(+) from negative (-). While weldin the DMX signal cable plug,there must pay much attention to know postive(+) from negative(-), and then connect the DMX512 signal cable with the corresponding input interface of PX403 correctly.
- Connect a signal terminal at the end of the whole connetion.

Calculation of the power

This product has a wide input/output voltage(DC 6-25V),rated current is 5A. So there is the different power under the different voltage. For example,

Power in12V：12V X 5A X 4 = 240 W
Power in 24V：24V X 5A X 4 = 480 W

DMX-512 Address code setting

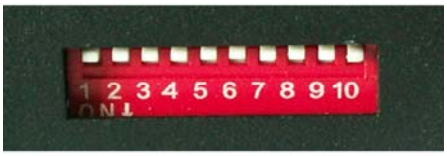
DIP switch of PX403 is with the function of writting the binary system and reading the DMX512 address code.
The bits from1 to 9 of DIP switch are as the key of writing DMX address code, 1 is LSB and 9 is MSB; total 512 address codes. The initial address code is the DMX signal received by the No.1 channel of decoder, the No.2 channel of decoder receive the data of the initial address code+1, No.3 channel will receive the data of initial addess code+2. On the analogy of this.There are two ways able to get the relationship betwe -en the DIP switch and DMX addess code.

Calculational method：

Calculational formula：[Sum of 1~9 bits of DIP switch] = DMX initial address code
Set the n(th) bit of 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 non-use.

Value of each 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+2，is the start address 38.
That is：[32 + 4 + 2] = 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+2，is the start address 226.
That is：[128 + 64 + 32 + 2] = 226

Points for attention in products Installing & Using

Points for attention in installing：

(1)The input voltage should be limited in rated range.
(2)Do not use it by over load.
(3)Installed in suited environment.
A.The driver can not be setting in high temperature or wet conditions
B.We recommend three ways to take away the heat as follows
①Bared in moving air
②Put in a big enough space for taking away the heat
③Fixed on big metalline board, and make sure they are contacted well

Points for attention in products Installing & Using

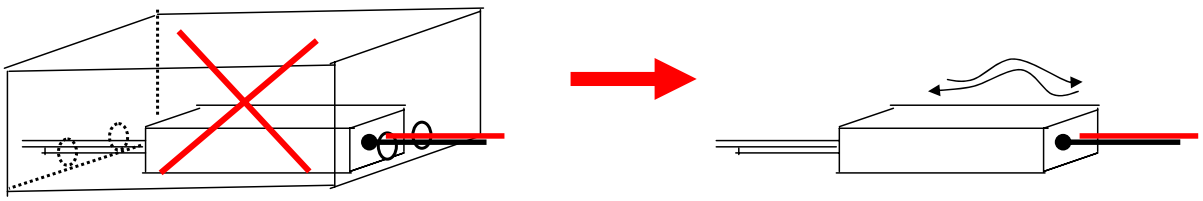
(1)In working with the matched controller, the reliable cable length is 200m and try to keep the controller near to the decoder avoid the signal becoming weak.
(2)Recommend to use the STP with the characteristic impedance of 120 ohm
(3)The signal line should be one bus, and the signal line pass in and out the decoder ports directly
(4) Make sure the signal line connector and the decoder's signal port are well connect
(5) Add a signal terminator at the end of the signal line
(6) The decoder should be closed to the lamps. If the lamps is over 5 meters, the ones follow shoule be joined at the decoder's out port again
(7) Adopt thicker power cable with good conductibility
(8) If one decoder take several lamps in series , make sure the lamps's connectors are firmly connected
(9) Signal line should be far away with the 110/220V AC cable
(10For these conditions: bad environment, long line, more than 20 decoders on line, please reduce the load of decoders, commonly less than 100w on each one.

Install Cases:

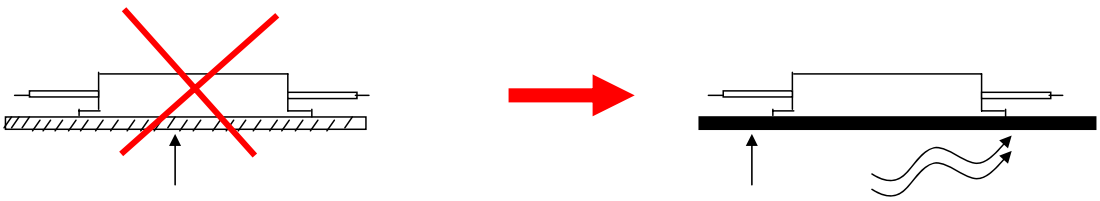
(in attached drawing,the unconscionable of install cases were labeled by "X")

(1)The bad install manners of take away the heat and the right ways:

Wrong manner in stalling **Correct manner in stalling**

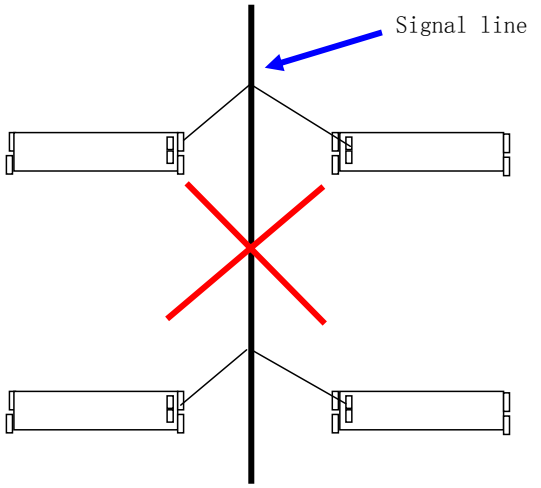


the decoder can't be set in airtight conditions Bared in moving air

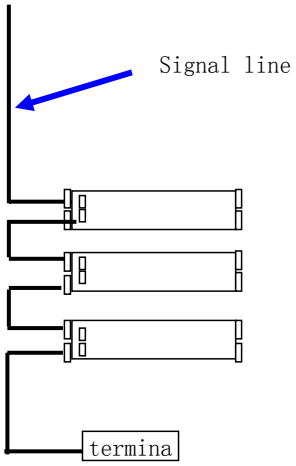


woodwork(plastic) metal ventilation well

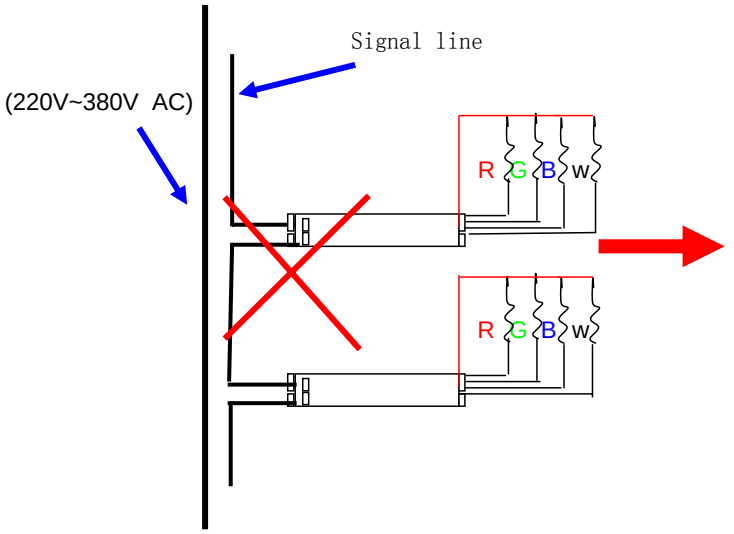
(2)The install manners with weak signal and the right ways :



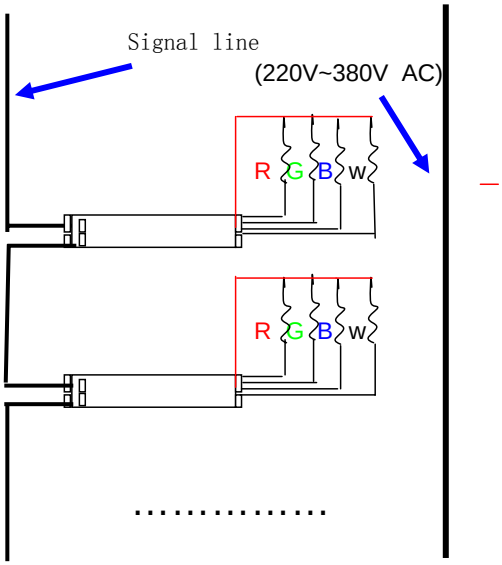
the signal line was linked side by side



The signal line should be one bus and add a signal terminator at the end of it



Signal line was closed to 220/380V AC



Signal line should be far away from 220/380V AC

Troubleshooting Guide

Problem	Reason	Solution
1.All the lamps were off	The power wire not connected well or no output	Reconnect the power wire or change a power supply
	Lamp's power wire not connected well	Reconnect the power wire
	Signal terminal not connected well or the signal wires were reverse	Reconnect the signal cable
	Line is too long, for over 300m	Add terminator or amplifier
2.One or several lamps not change	Signal terminal not connected well or the signal wires were reverse	Reconnect the signal cable
	Line is too long, for over 300m	Add terminator or amplifier
3.Some color was off	Wire of this color not connected well	Reconnect the power wire
4.Wrong color was shining in change	Power wire were reverse	Reconnect the power wire
	Decoder address was wrong	Change the address（refer to the address table）
5.Irregular flicker	Signal terminal not connected well	Reconnect the signal terminal
	Line is too long, for over 300m	Add terminator or amplifier

If still can not figure out, please contact our technician.