

LED DMX/RDM Decoder - RGBW (4CH) - User Manual



Item no.: LC-035-004

1. Product Description

The DMX/RDM Decoder RGBW is used for constant voltage LED's. It has an 8 or 16-bit processor to the standard signal DMX512/1990 converted into a PWM signal. DMX address can be set via 4-digit display. The dimmer has 4 output channels, 5A output current.

2. Specification

supply voltage	12-24VDC
max. output power	4x60W (12V) or 4x120W (24V)
Input Signal	DMX512/1990
Output Signal	between 500Hz and 30kHz in 1000Hz steps free settable
max. wire cross-section	2,5mm ²
dimensions (L x W x H)	170 x 53,4 x 28mm
weight	136g

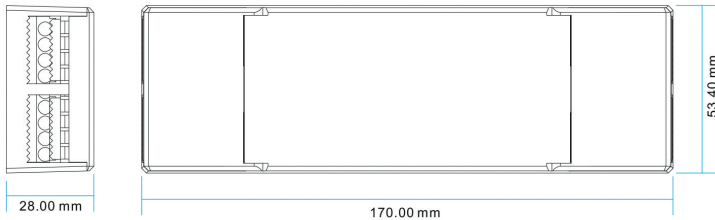
3. Description

1. Input Voltage 12-24VDC
2. Total 4 PWM Output Channels with common anode
3. DMX channel quantity from 1CH-4CH settable
4. PMW Output frequency between 500Hz and 30kHz in 1000Hz steps free settable
5. Output dimming curve gama value from 0.1 - 9.9 settable
6. PWM Output resolution ratio 8bit and 16bit settable
7. Decoding mode settable

4. Safety warnings

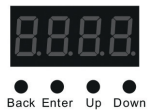
1. To avoid installed the product in minefield, strong magnetic field and high voltage area.
2. To ensure the wiring is correct and firm avoiding short circuit damages to components and cause fire.
3. Please install the product in a well ventilated area to ensure appropriate temperature environment.
4. The product must be worked with DC constant voltage power supply.
Please check the consistence of input power with the product, if the output voltage of the power comply with that of the product.
5. Connect the wire with the power on is forbidden. Ensure proper wiring first then check to ensure no short-circuit, then power on.
6. Don't repair it by yourself whenever an error occur. Contact the supplier for any inquiry.

5. Dimensions



6. Introduction

If the decoder is on the supply voltage, you can use the following menu items with up, - and Down-Buttons:



- 8.XXX** setting of DMX adress, factory default setting is 001
- 88.XX** number of DMX addresses used between 1-4 adjustable
- 88.XX** PWM resolution between 8bit and 16bit settable. default setting is 16bit
- 88.XX** PWM output frequency adjustable between 500Hz and 30kHz in 1000Hz steps, factory default is 1K Hz
- 88.XX** gamma value of the dimming curve set, factory default is GA1.5
The higher the value, the slower will be dimmed at the bottom
- 88.XX** Decoder Mode Programm adjustable, factory default is dp1.1

By holding button Back + Enter together at the same time over 5 seconds until the display go off and it will restore all default settings.

1. DMX address setting:

Select menu **A XXX** , click „Enter-Button“, display flashes, then click or hold button „Up“/“Down“ to set DMX address (click is slow, hold is fast), then click button „Back“ to confirm.

2. DMX channel quantity setting:

Select menu **BB XX** , click button “Enter”, display flashes, then click or hold button “Up” / “Down” to set number of DMX addresses to use between 1-4, then click button “Back” to confirm.

CH01 = all 4 PWM output channels (R/G/B/W) have the same DMX address and are controlled with the same DMX address on the decoder (for example 001)

CH02 = the PWM output channels 1&3 (R/B) have a common DMX address. These corresponds to the set of the decoder address (for example 001). The PWM output channels 2&4 (G/W) have a second common DMX address. This corresponds to the set at the decoder address + 1 (in this case 002)

CH03 = the PWM output channel 1 (R) has a DMX address. This corresponds to the set at the decoder address (for example 001). The PWM output channel 2 (G) has a second DMX address. This corresponds to the set at the decoder address + 1 (in this case 002). The PWM output channels 3&4 (B/W) have a third common DMX address. This corresponds to the set at the decoder address + 2 (in this case 003)

CH04 = all 4 PWM output channels (R/G/B/W) have their own DMX address. This corresponds to the set at the decoder each address plus 1 (in this case at the decoder set DMX address 001 for R, 002 for G, 003 for B and 004 W)

3. PWM output resolution bit setting:

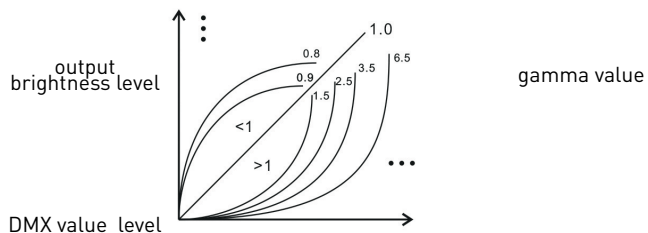
Select menu **BB XX** , click button “Enter”, display flashes, then click or hold button “Up” / “Down” to set PWM output resolution between 8 or 16bit, then click button „Back“ to confirm.

4. Output PWM frequency setting:

Select menu **BB XX** , click button “Enter”, display flashes, then click or hold button “Up” / “Down” to set the PWM frequency between 00-30, then click button „Back“ to confirm. Output PWM frequency adjustable in 1000Hz steps. 00 = 500Hz, 01 = 1kHz, 02 = 2kHz,..... 30 = 30kHz.

5. output dimming curve gamma value setting:

Select menu **BB XX** , click button “Enter”, display flashes, then click or hold button “Up” / “Down” to set the gamma value between 0.1- 9.9, then click button „Back“ to confirm.



6. DMX decoding mode setting:

Select menu **88.XX**, click button "Enter", display flashes, then click or hold button "Up" / "Down" to set the decoding mode, then click button „Back“ to confirm.

In decoding program mode you have the possibility with parent DMX addresses additional settings. With another DMX address you can dim, micro dim or set stroboscope effects with preinstalled values.

That means that if you, for example, set the decoder on CH04 mode, so they can be prepared by 4 different DMX addresses which control 4 different output channels (R/G/B/W). Now set the decoder program DP1.1. on DP6.4., you have the option of having a further 5 DMX address up the set RGBW color and to dim (master dimming) and with a further 6 DMX address additionally incorporate with stroboscopic effects.

You can adjust the values 0-255, the overall brightness between 0-100% at the 5th DMX address and you can determine the speed of the strobe effect at the 6th DMX address with the value 0-255. The higher the value (1-254), the faster the effect, and at 255 the strobe effect is deactivated.+

Note that if you in the decoding program change from DP1.1 to a different value and in this mode master dimming exists, you have to set master dimming (dmx address) initially up to 100% or 255 to adjust desired color settings to. If the master dimming value set to 0, all output channels (R/G/B/W) are automatically also set to 0 as the master dimmer is superior.

Please note that the micro dimming is so fine that it only in the lowest brightness stages can be seen with the human eye.

The following tables show the different decoding programs and their can setting options are taken:

DMX address is 001, CH01:

DMX address	dp1.1	dp2.1
1	dimming for all outputs	dimming for all outputs
2		micro dimming for all outputs

DMX address is 001, CH02:

DMX address	dp1.1	dp2.1	dp3.2
1	dimming output 1&3	dimming output 1&3	dimming output 1&3
2	dimming output 2&4	micro dimming output 1&3	dimming output 2&4
3		output 2&4	master dimming for all outputs
4		micro dimming output 2&4	

DMX address is 001, CH03:

DMX address	dp1.1	dp2.1	dp4.3	dp5.3
1	dimming output 1	dimming output 1	dimming output 1	dimming output 1
2	dimming output 2	micro dimming output 1	dimming output 2	dimming output 2
3	dimming output 3&4	dimming output 2	dimming output 3&4	dimming output 3&4
4		micro dimming output 2	master dimming for all outputs	master dimming for all outputs
5		dimming output 3&4	micro dimming for all outputs	strobe effects
6		micro dimming output 3&4		

DMX address is 001, CH04:

DMX address	dp1.1	dp2.1	dp5.4	dp6.4
1	dimming output 1	dimming output 1	dimming output 1	dimming output 1
2	dimming output 2	micro dimming output 1	dimming output 2	dimming output 2
3	dimming output 3	dimming output 2	dimming output 3	dimming output 3
4	dimming output 4	micro dimming output 2	dimming output 4	dimming output 4
5		dimming output 3	master dimming for all outputs	master dimming for all outputs
6		micro dimming output 3		strobe effects
7		dimming output 4		
8		micro dimming output 4		

7. wiring diagram

