User manual
LEDVD5CH20A-V3

Voltage driver whereby the brightness, color or color temperature of the LED strips are set by a DMX 512 signal (without user interface circuit board)

Voltage driver whereby the brightness, color or color temperature of the LED strips are set by a DMX 512 signal (without user interface circuit board)

The user may adjust the light intensity by means of a DMX512 signal, for each channel individually. When there are also RGB strips used in the installation, you can set color effects by DMX512. When color temperature strips are used, they can be adjusted by the ratio between warm white and cool white color temperature by DMX512. The desired DMX address on the volt age driver can be set by on-board DIP switches, and there is also on an on-board DMX switchable terminator.

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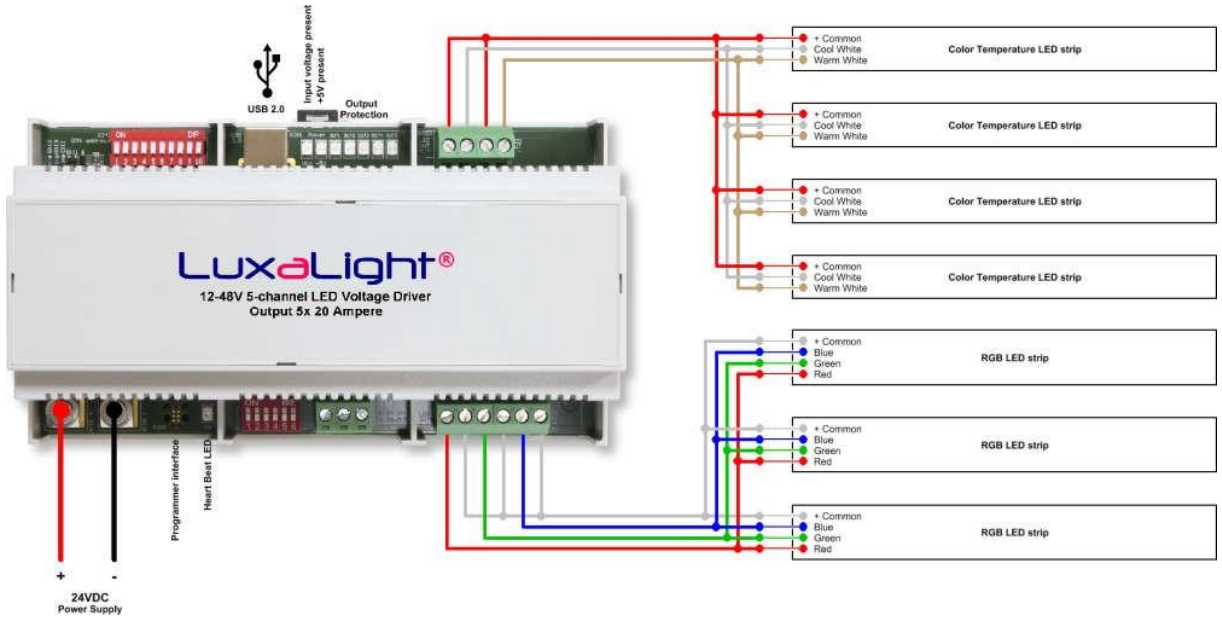
Connecting and adjustments:

Schematics



The above diagram shows the use of this version of the controller.

The power supply:

On the left at the bottom side of the voltage driver there are two large terminals. This, the power supply wires are connected. The total requested flow from the diet can be with all five channels at full load up to 100 Amps. If the power wires between power supply and voltage driver no more than 1 to 1.5 meters, it is sufficient 2x 10mm2, 16mm2 is recommended for longer lengths.

The outputs:

The outputs of the voltage driver are located on the right side on the PCB and the order of the channel numbers is counter clockwise, starting on the bottom.

To the right on the circuit board at the bottom, a connecting block (X502) is located with 6 ports, starting from the left-hand connection: 1 Output 1 –
2 Output 1 +
3 Output 2 –
4 Output 2 +
5 Output 3 –
6 Output 3 +

To the right on the circuit board at the top, a connecting block (X503) is located with 4 ports, starting from the right-hand connection:
7 Output 4 –
8 Output 4 +
9 Output 5 –
10 Output 5 +

Setting colors and effects:

The possibilities for playing color scenes depends on the DMX signal transmitter, therefore the manual of the respective DMX player must be consulted. With the DMX512 signal connected to the voltage driver, it is possible to adjust the brightness at each of the five channels in 256 steps. By connecting RGB LED strips and color temperature LED strips, it is possible to finetune every tint.

Setting the DMX address:

For controlling the voltage driver with a DMX signal it requires in the first place a DMX512 player. With the DIP switch located on the upper left of the print (S241), the starting address for channel 1 can be set. Stress Driver used as the starting address 5 consecutive DMX addresses for the five channels.

The DMX address is set binary:
1 = 1
2 = 2
3 = 4
5 = 8
6 = 16
7 = 32
8 = 64
9 = 128
10 = optional

The setted values added together is the DMX address.

Connecting the DMX signal:

The green terminal block (X201a) located at the bottom center of the circuit board (three-pole detachable) is for the DMX signal. The connections from left to the right are:
1 Ground (GND)
2 Data + (D+)
3 Data – (D–)

Terminator:

To the left side of the three-pole DMX terminal block there is a 6-way DIP switch S231 located where the 6th position (closest to the DMX connector) is the 120 Ohm terminator. The terminator will is activated by setting the 6th DIP switch up to ON position, only when the voltage driver is connected to the end of a long DMX512 signal cable.

LED indicators:

On the board are what LED indicators. The green LED's at the top indicate that the supply voltage on the print is present and hence the 5V for the controller electronics. The green flashing LED at the bottom indicates the "heart beat" of the controller as a sign that it is working properly. There are also some red LEDs OUT 1 t / m OUT5, which light up as soon as a voltage output is overloaded. Above a certain value is, moreover, the overloaded channel turned off by software.

Custom made options:

The LuxaLight voltage driver provides the proprietary software options for customer-specific applications, such as connecting a light sensor. The hardware of the voltage driver offers this possibility, but an additional light sensor has to be made and should also be made an extentions in the software here. Customization options will be included in the offer.

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Specifications:

Input voltage	12…48V
Maximal input current	100A (sum of the output currents)
Standby current	18mA (outputs fully dimmed)
Own power consumption	5W at 2400W load
Efficiency	Approx. 99.8%
Output current per channel	20 Ampere up to 24 Volt
Output power	12V – 5x 240 Watt = 1200 Watt (20A/channel)
	24V – 5x 480 Watt = 2400 Watt (20A/channel)
	36V – 5x 540 Watt = 2700 Watt (15A/channel)
	48V – 5x 576 Watt = 2880 Watt (12A/channel)
Overvoltage protection	Yes, up to 60 Volts
Short circuit protection	Jes
DMX512	DMX512 input/output
On-board DMX512 terminator	Yes, switchable
PWM frequency	250 Hz
No. of brightness steps per channel	256 (8-bit)
Color resolution	8-bit (16.7 million colors, true-color)
Outputs are EMC filtered	Yes
Temperature range	-20°C … +40°C
Housing, b x h x d	DIN rail housing, 159mm x 90mm x 58mm
IP- class	IP20
Cooling	On circuit board, with coolfan on fan controller

Compliant:

Meets standards:

- CE mark is attached to the PCB
- RoHS directive 2002/95/EC
- EMC directive 2014/30/EC

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