

User manual

LEDVD5CH20A-V4

*Voltage driver where the outputs are set by the Real Time Clock
(without user interface print board)*

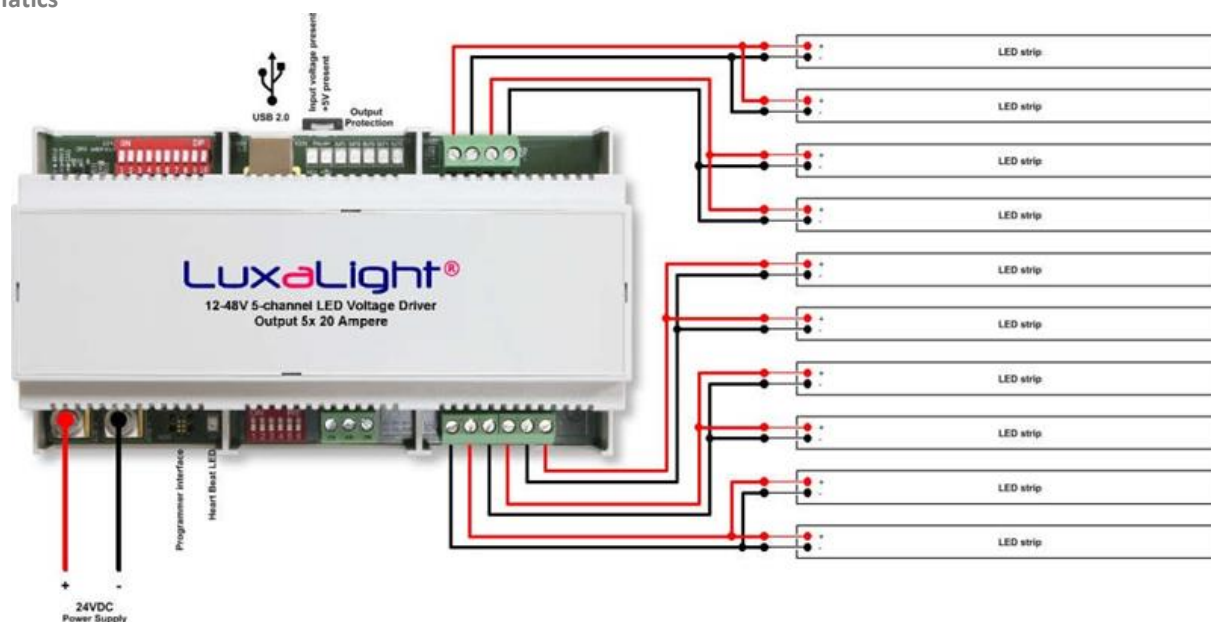


Voltage driver where the outputs are set by the Real Time Clock (without user interface print board)

The user can by set the Real Time Clock by means of a PC / laptop with a terminal program and a USB cable. The intensity of the five voltage channels can be adjusted periodically, and channels can be switched on and off. This can be used for building lighting, aquarium lighting and home automation lighting which is arranged inside or outside buildings. The lighting can per channel not only switched on and off but also dimmed.

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 times:

Reference is made to the LED driver software manual in which the terminal commands are given for setting the Real Time Clock.

Upon commissioning of the RTC, the date and time must be set using the terminal program.

```
setDateTime 01-01-2016_01:00:00
```

Because there is no unlimited memory for the 5 channels the number of programmable times may be restricted.

Setting times for repetitive day agenda:

```
setCh1DayTime1      00:00:00
setCh1DayLevel1     000
clearCh1DayTime1
setCh1DayTime2      00:00:00
setCh1DayLevel2     000
clearCh1DayTime2
setCh1DayTime3      00:00:00
setCh1DayLevel3     000
clearCh1DayTime3
setCh1DayTime4      00:00:00
setCh1DayLevel4     000
clearCh1DayTime4
setCh1DayTime5      00:00:00
setCh1DayLevel5     000
clearCh1DayTime5
setCh1DayTime6      00:00:00
setCh1DayLevel6     000
clearCh1DayTime6
setCh1DayTime7      00:00:00
setCh1DayLevel7     000
clearCh1DayTime7
setCh1DayTime8      00:00:00
setCh1DayLevel8     000
clearCh1DayTime8
```

This also applies to Ch2 t / m Ch5.

For daily calendar: 5 channels one day and eight hours are 40 positions.

Per position saves time and PWM level, so 80 entry variables.

Eight times wants to on / off saying that it can only 4x a day.

Setting times of week book 5 channels, 7 days a week, 8 times a day with levels:

```
setCh1MondayTime1   00:00:00
setCh1MondayLevel1  000
clearCh1MondayTime1
setCh1MondayTime2   00:00:00
setCh1MondayLevel2  000
clearCh1MondayTime2
...
setCh5SundayTime8   00:00:00
setCh5SundayLevel8  000
clearCh5SundayTime8
setCh5SundayTime8   00:00:00
setCh5SundayLevel8  000
clearCh5SundayTime8
```

For week calendar: with 5 channels, 7 days and 8 times a day, that are 280 positions. Per position time and PWM level are saved, so 560 entry variables.

Setting times of year calendar, 5 channels, 16 days in the year, 8 times a day with levels:

```
setCh1YearDate1    01-01-2016
setCh1YearTime1    00:00:00
setCh1YearLevel1   000
clearCh1YearTime1
setCh1YearDate2    01-01-2016
setCh1YearTime2    00:00:00
setCh1YearLevel2   000
clearCh1YearTime2
```

For year calendar year: 5 channels 16 days and 8 times per day, that are 640 positions.
Per position time and PWM level is saved, so there are 1280 entries available for the year.

The annual calendar is used for holidays. For the daily calendar or week calendar, the daily calendar is best used first. The weekly agenda overruled the daily calendar schedule, so if you have programmed a particular setting for the daily calendar first, and you set the schedule for the week so that like the weekend, Saturday and Sunday, the PWM values are 000. Then the lighting will not switched on in the weekend. The same is true for the year calendar, there can be set, for example, on public holidays, the PWM values to 000, so that the office lighting is switched off during these days.

For the Real Time Clock there is an on-board backup battery needed in order to let the time run without a power on the board.

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.

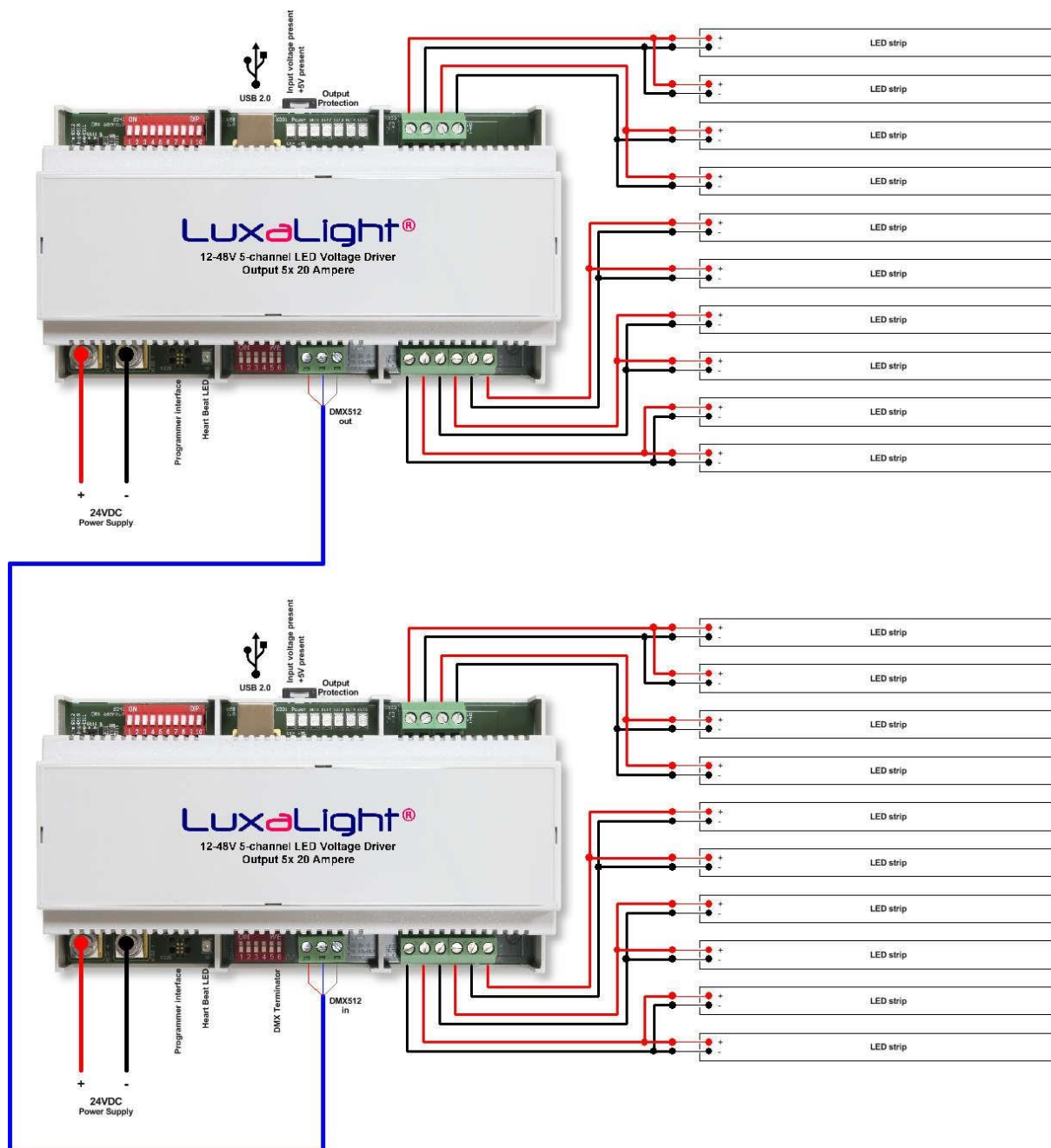
Custom made options:

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 extensions in the software here. Customization options will be included in the offer.

Cascading the drivers:

The colors and color effects which can be created by the driver themselves are also available on the DMX connector with fixed DMX channels 1 to 5. This allows other voltage drivers to be linked, and to follow the color settings and color effects.

See circuit diagram below:



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	Yes
Real Time Clock	Yes
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