



**VDL RENA ELECTRONICA**

**90519045**

Bits2Power® 2 CHANNEL LED DRIVER

#### Product description

- 2 Channel LED driver
- 150 / 350 / 500 / 700 mA version
- 0 – 100% dimming
- Thermal protection
- 3 Year Warranty
- CE certified
- IP67

#### Applied Standards

EN55022  
EN55024



#### Technical notes

Dimensions	156x38x25mm
Weight	220 gr.
Housing	Polycarbonate
Color	White (RAL9003)

#### Electrical Characteristics

Input voltage range ①	24 ... 48Vdc
Efficiency	92%
Output voltage range ②	3 ... Vin - 4 Vdc
Output current max ③	see technical details
Output power max	see technical details
Output dimming range ④	0 – 100%

#### Ordering data

Type	Article number
2-channel 150mA	90519045-48D4815W67
2-channel 350mA	90519045-48D4835W67
2-channel 500mA	90519045-48D4850W67
2-channel 700mA	90519045-48D4870W67

#### Protections

Undervoltage lockout	@ Vin < 20Vdc
Short circuit protection	Output current limit
Reversed polarity	Positive ↔ Negative
Reversed connection	Input ↔ Output
Overheating protection	70°C Output derating

#### Connections

Input voltage	Positive	Orange	AWG20, 250mm
	Negative	Black	AWG20, 250mm
LEDS ⑧	Positive	Red/White	AWG20, 250mm
	Negative	Black/White	AWG20, 250mm

① Tolerance of 5%  
 ② Nominal output voltage is # of LEDS x LED forward voltage  
 ③ Tolerances of 5% and for each circuit  
 ④ PWM controlled outputs  
 ⑤ To be determined  
 ⑥ 10% @ Vout < 3V ( = 1 LED)  
 ⑦ @ LED voltage = 3V typical  
 ⑧ Common Negative system



## Technical details

Model	90519045-48D4815W67		90519045-48D4835W67		90519045-48D4850W67		90519045-48D4870W67	
Output	Number of channels	2	2	2	2	2	2	2
	DC voltage Range	3... Uin-4 V	3... Uin-4 V	3... Uin-4 V	3... Uin-4 V	3... Uin-4 V	3... Uin-4 V	3... Uin-4 V
	Rated channel current	150 mA	350 mA	500 mA	700 mA			
	Max. channel power	7 <sup>⑨</sup> W	16 <sup>⑨</sup> W	22 <sup>⑨</sup> W	31 <sup>⑨</sup> W			
	Current tolerance	±2 <sup>⑩</sup> %	±2 <sup>⑩</sup> %	±2 <sup>⑩</sup> %	±2 <sup>⑩</sup> %			
Input	PWM frequency	920 Hz	920 Hz	920 Hz	920 Hz			
	Number of LEDs	1 ... 12 <sup>⑦</sup>						
	DC voltage Range	24 ... 48 V						
	Efficiency(full load)	92 %	92 %	92 %	92 %			
	Standby Power	1 mW	1 mW	1 mW	1 mW			

## All Models

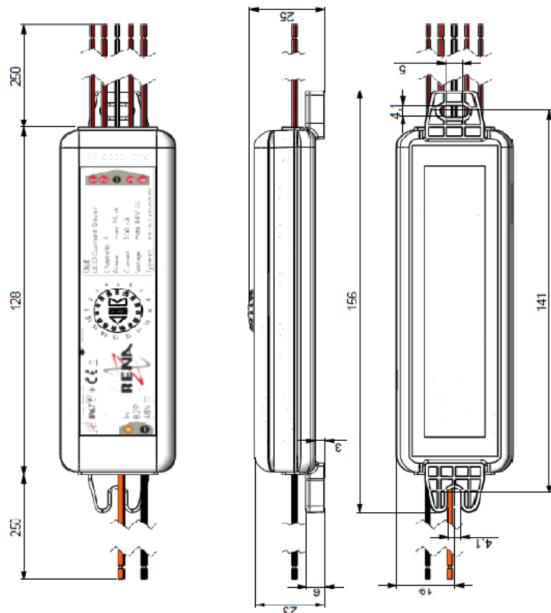
Protection	Short Circuit	Recovers automatically after removing short
	Over Current	Input protected by unrecoverable fuse
	Over Voltage	Input protected by TVS diode
	Over Temperature	70°C (Output derating)
Safety & EMC	Withstand Voltage	I/P-O/P: 0,5kV
	Isolation Resistance	I/P-FG: >100MΩ / 500VDC / 25°C / 70% RH
	EMI	EN55022 (CISPR22)
EMS IMMUNITY		
EN55024, EN61000-4-2, 3, 4, 5, 6, 11		

<sup>⑨</sup> Maximum total input power is limited to 75 W. Output power will be derated for each separate channel when this limit is exceeded.

## Mechanical Dimensions

Overall dimensions

L = 156 x W = 38 mm  
Height = 25 mm



## Thermal Characteristics

The LED driver must operate under proper environmental conditions and the operating ambient air temperature must NOT exceed the maximum given temperature.

For an optimal lifetime performance the LED driver must be placed in an environment where a sufficient heat transport is guaranteed.

The heat transport is done by natural convection. It's not recommended to expose the module to direct sunlight or any other heat source.

## Environmental characteristics

Storage temperature	-20 – +70°C
Operating temperature	-20 – +50°C
Operating humidity	10-95% RH
IP classification	IP67

## Tc point

For an optimal lifetime performance the Tc point of the device must never exceed [ ⑤ ] degrees Celsius.

The maximum value must be determined under operating conditions in a thermally stable state and under worst-case conditions for the current application

## Installation and Safety Information

Installation must be carried out under observation of the relevant regulations and standards. The following advice must be followed:

- See PDC600 controller manual for system installation details.
- The device contains components that are sensitive to electrostatic discharge and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken.
- Use wire size of minimum AWG 20 for connecting the B2P device.
- Please ensure the correct polarity of the leads.
- For outdoor or damp locations, be aware of the IP classification.

All above specifications must be met in order to qualify for the 3 year warranty.

## Packaging

Box size (mm)	288x207x66 mm
Quantity each Box	12
Quantity each layer	12
Layer each box	1
Weight each box (kg)	2,1 kg