



VDL RENA ELECTRONICA

90519041

Bits2Power® 1 CHANNEL PWM DRIVER

Product description

- 1 Channel PWM driver
- 12 / 24 / 36V 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) |

Ordering data

| Type | Article number |
|---------------|----------------------|
| 1-channel 12V | 90519041-48D12210W67 |
| 1-channel 24V | 90519041-48D24210W67 |
| 1-channel 36V | 90519041-48D36210W67 |

① Tolerance of 5%

② Nominal output voltage is # of LEDS x LED forward voltage

③ Tolerances of 5% and for each circuit

④ Percentage of output voltage

⑤ To be determined

Electrical Characteristics

| | |
|-----------------------|-----------------------|
| Input voltage range ① | 12 ... 48Vdc |
| Efficiency | 92% |
| Output voltage range | see technical details |
| Output current max | 2,1A |
| Output power max | see technical details |
| Output dimming range④ | 0 – 100% |

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 | Positive | Red | AWG20, 250mm |
| | Negative | Black | AWG20, 250mm |



Technical details

| Technical details | | | | | | | | | | | | | | |
|-------------------|-----------------------|-----------|----|--|--|----------------------|-----------|--|--|----------------------|--|-----|----|--|
| Model | 90519041-48D12210W67 | | | | | 90519041-48D24210W67 | | | | 90519041-48D36210W67 | | | | |
| Output | Number of channels | 1 | | | | 1 | | | | 1 | | | | |
| | DC voltage Range | 12 | V | | | | 24 | | | V | | 36 | V | |
| | Rated channel current | 2,1 | A | | | | 2,1 | | | A | | 2,1 | A | |
| | Maximum power | 25 | W | | | | 50 | | | W | | 75 | W | |
| | Voltage tolerance | ±5 | % | | | | ±5 | | | % | | ±5 | % | |
| | PWM frequency | 920 | Hz | | | | 920 | | | Hz | | 920 | Hz | |
| Input | DC voltage Range | 24 ... 48 | V | | | | 28 ... 48 | | | V | | 48 | V | |
| | Efficiency(full load) | 92 | % | | | | 92 | | | % | | 92 | % | |
| | Standby Power | 1,5 | mW | | | | 1,5 | | | mW | | 1,5 | mW | |

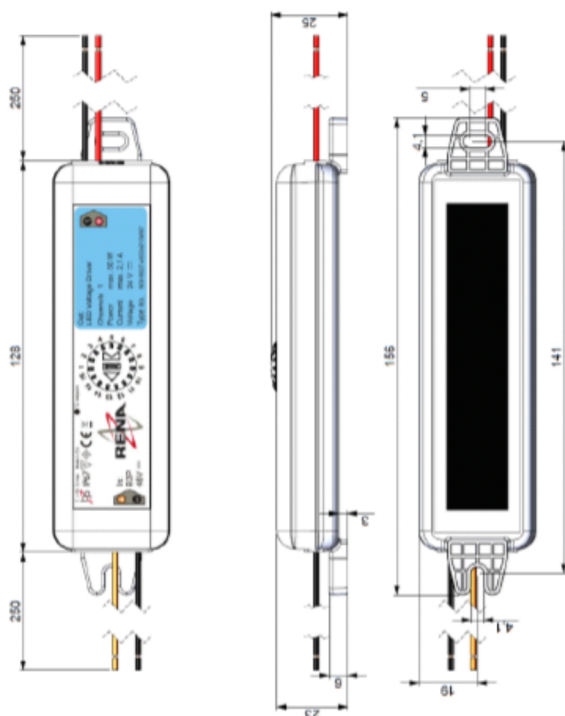
All Models

| | | | | | | | | | | | | | | | | |
|--------------|----------------------|---|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 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 | | | | | | | | | | | | | | |

[®] 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 |