

## Varidriver



## ***VariDriver***

### ***From 0 up to 3 Amps in your LED's, you choose!***

High efficiency LED driver built to be able to handle with very high current LED's, but also to let the user choose at any time the desired current per LED series. With correct power supply dimensioning, you have a driver that is almost invisible to the circuit wasting very low power.

Please find below detailed features.

- Power source from 15V up to 50V DC (example: 4 to 15 CREE XM-L @3A);
- Adjustable current limit from 0 to 3A with a multi-turn trimmer for precise control;
- Works with as few as 100mV difference between input and output allowing for a better choice for the power supply aiming for less power waste in the driver. This 100mV difference can lead up to 99% efficiency;
- Power Mosfet with encapsulation to be directly attached to LED's heat-sink. In systems where the heat-sink is already very loaded with LED's, might be a good idea to install them in a separate heat-sink. **An heat-sink should always be used in the MOSFET even if very low power is being wasted. This way you allow for a very long MOSFET life by not stressing it;**
- 5mm screw terminals for easier interconnection, no soldering required;
- 5V PWM and 3.3V PWM supported by a selection of a jumper. This allows the usage with multiple micro controllers, even with the 3.3V ones (Arduino, Chipkit, Netduino, etc.);
- Supplied with mounting kit;
- Dimensions: 5cm x 3.45cm.

Note: Heatsink not included.

**WARNING:**

**You must guaranty when you install the driver with the mica insulator that there is no electrical conductivity between MOSFET metal pad and the Heat-sink. Otherwise you may be shorting your led's to some point that can damage them.**

Special note:

Top trimmer should be turned clockwise up to the end (when it gentle clicks you know it's in the end) before connecting to LED's array. This way you ensure that you've 0 or almost 0 current when connecting them. You should then adjust current to your needs with everything properly connected and driver already attached to the Heat-sink.

*Jumper locations:*



Jumpers are organized in two groups, Green (JP1 and JP2) and Red (JP3) on photo.

Green section is for voltage selection for PWM. **They work together and must be both in same position**

Red section is for the internal circuitry voltage regulator.

## *Jumper settings*

**JP3** (internal circuitry voltage regulator):

**POS1** => For input voltages from 15V up to 24V;

**POS2** => For input voltages from 24V up to 36V;

**POS3** => For input voltages from 36V up to 50V;

**JP1-2** (PWM voltage selector):

**Shorting 1-2** => For 3.3V PWM input signal;

**Shorting 2-3** => For 5V PWM input signal;

## *Trimmer functions*

Top side PCB trimmer set the current limit.

Clockwise decreases current limit, and counter-clockwise increases.

Bottom side PCB trimmer set the 0 PWM current.

With this trimmer you can normally ensure a fully or very close to off LED with 0 PWM.

This trimmer is set already when the driver is tested, but you may need to adjust it.