

# Dual LIGHT Driver

## User Manual



The Dual Light Driver (DLD) is used to drive one or two H4 headlight bulbs for motorbikes.

- **Brighter headlights.**

The kit powers the bulbs from the battery, which avoids the voltage loss from going through the bikes wiring. This makes a noticeable difference to light output. It is a well-known modification using relays, although the solution is bulky and a lot of wiring. The DLD is quite an elegant fit for motorbikes.

Provides the ability to upgrade from old 35/60W to the latest aftermarket 60/55W bulbs. This provides a very significant boost in light output. The DLD can reduce the brightness while the alternator is not producing as much power, such as at idle. So while stationary, when you don't need the extra power, the DLD will avoid the headlights draining the battery. This is configurable and can be turned off.

- **Delayed On**

The low beam can delay on, giving you time to start your bike without the head lights loading up the battery. Makes for easier starting. This can be set to a fixed 10 or 16 seconds, or the default is 8 to 20 depending on detection of the engine running. Or just flash the high beam and they will turn on straight away.

- **Courtesy Lighting**

Just before turning ignition off, flash the high beam. Courtesy mode will then activate and the headlights will stay on (at lower power setting) for a period so you can make your way in the dark. Configurable for 30, 45 or 60 seconds. If you flash the high beam twice, it extends the time another 20 seconds.

- **Transition Overlap**

Usually, when you go from low to high beam or back, you get a short black out period. This is because the bulbs don't instantly turn on with full brightness. Instead, they ramp up until they reach full power. This can be disconcerting when riding in unlit areas. The DLD incorporates an overlap, giving you a quick seamless transition without the blackout period.

- **Extras**

The multi-coloured diagnostic light provides a handy tool. If something is wrong, this will make it easy to know where the problem is. It provides a reference for battery/alternator voltage. Shows when the low or high beam is on. When courtesy mode is active. Reports if the high or low beam filaments have failed. As well as alerts when the regulator/rectifier has failed and causing an over voltage condition. If it display red or is flashing, you can refer to this user guide to find out what the problem may be.

If you do have a failed regulator/rectifier and it's causing over voltage, typically the first symptom is your low beams burn out. The DLD however will automatically compensate and maintain a safe power level for your low beam, to avoid bulb burnout. The diagnostic light will also be alerting you to the regulator/rectifiers failure.

If at any stage your low beams fail, the DLD will automatically enable the high beam at partial power so you don't suddenly find yourself riding in the dark, with no headlights. The diagnostic light will be flashing to alert you, so you know the bulbs need changing. You can still use full high beam using the normal high beam control.

## Diagnostic LED

Light	Function
White	Low Beam
White Flashing	Either delayed on time is running, or the low beam is not drawing power.
Blue	High Beam
Blue Flashing	Either delayed on time is running, or the high beam is not drawing power.
Cyan Flashing	Emergency high beam is running, as low beam has failed.
Magenta	Courtesy lighting timer is running.

## Battery Monitor

Flashing					Flashing
Battery too Low	Battery Low	Typical with Engine off/idle.	Expected while RPM above idle.	Voltage High	Voltage Very High.

The diagnostic LED will show the battery voltage for a short period after ignition is turned on. It will automatically alert you if the voltage goes into the red zone.

If you want to display the battery monitor for longer, you can easily hold it to this display mode temporarily. Hold the high beam passing button on, turn ignition on and then release the passing button (must be done within 2 seconds of ignition on). The battery monitor stay on, until ignition is turned off.

## User Configuration

To change a setting, turn ignition on and immediately flash the high 3 to 20 times (see table below). A couple of seconds after you finish flashing, the DLD will stop counting and change the respective setting.

All settings are saved and are not lost if it's disconnected from the battery.

After the first 3 flashes, the DLD light will turn magenta so you know you're in the configuration mode. If you lose count, just hold the high beam on and it will time out after a few seconds (flashes red to acknowledge exit without changes).

Flash	Change Setting	
3 times	Delay Off	Headlights turn on as soon as ignition is turned on.
4 times	Delay 8 to 20 seconds	Minimum 8 seconds delay, maximum 20 seconds if engine start not detected.
5 times	Delay Fixed 8 seconds	Headlights turn on 8 seconds after ignition turned on.
6 times	Delay Fixed 16 seconds	Headlights turn on 16 seconds after ignition turned on.
7 times	Low Beam 65/100%	Low beam run between 65 and 100% Recommend for those upgrading from 35/60W bulbs
8 times	Low Beam 75/100%	Low beam run between 75 and 100%
9 times	Low Beam 100%	Low beam always runs at 100% power.
10 times	Courtesy 30 seconds, 65%	Courtesy timer runs for 30 seconds, low beam at 65% power. (50 seconds with double flash).
11 times	Courtesy 45 seconds, 65%	Courtesy timer runs for 45 seconds, low beam at 65% power. (65 seconds with double flash).
12 times	Courtesy 60 seconds, 45%	Courtesy timer runs for 60 seconds, low beam at 45% power. (80 seconds with double flash).
13 times	Courtesy disabled	Courtesy lighting function is disabled.
14 times	On/Off Emergency high beam	If the low beam fails, automatically enable the high beam at 60%. Factory default is enabled.
15 times	Restore Defaults	Restore to factory defaults. <excludes battery voltage offset>
16 times	Battery voltage offset 0.0V	See below
17 times	Battery voltage offset 0.2V	See below
18 times	Battery voltage offset 0.4V	See below
19 times	Battery voltage offset 0.6V	See below
20 times	Battery voltage offset 0.8V	See below

### Battery Voltage Offset

This may be useful for some bikes, where the voltage at the normal headlight connector is noticeably lower than the battery. If the low beam is not transitioning to higher brightness when the RPM is above idle, the offset may need to be increased. In general, this is not a parameter you should change without reason.

## **IMPORTANT DISCLAIMER**

The information provided by Ecliptech is not legal advice. The owner accepts ALL responsibility for the use and installation of this product. The product must not be used if any malfunction occurs, a suspected malfunction occurs and/or when not configured correctly. This product should not be used where it is not compliant with local laws. Such as, where the use of any high beam light may not be permitted in the presence of oncoming traffic. The product should not be configured to violate any laws. The owner is solely liable for any infringements associated with the use of the product. It is recommended to only use this product with the bulbs recommended by the manufacturer of the motorbike, and within the product specifications. Only use if safe and permitted to do so and at your own risk.