

...Motorbike Headlight Controller Upgrade...

OVERVIEW

We believe we have developed the most well thought-out headlight upgrade solution for motorbikes!

The Twinlight Driver³ provides you with...

- Headlight brightness increase, due to the very low loss direct power feed from battery.
- Appearance of having DUAL headlights.¹
- Increased conspicuity, to help those careless drivers take more notice of you.
- “Daylight Running Light” and “Headlight Modulator” modes.¹
- Choose different modes for day and/or night use (automatic switching).
- Delayed on functions, easier to start engine, less bulb wear.
- Powers both high and low beam, up to 80W bulbs.
- Slimline small module. The wiring was specifically designed for easy installation easy.

Twinlight Driver³ has a lot of refined features and modes, so you can customise it to suit your preference. A lot of thought and effort has gone into this 3rd generation. But at the core, it does all the basics you would still expect.

Answers to important questions you may have...

- Your high beam still works like normal! Using your high beam switch will override and turn your high beam on at full power.
- You can still flash your high beam. In fact, even if the high beam is running at partial power, the unit momentarily turns it off so you flash full on/off... to attract the most attention.
- Any settings you make are saved. Even if you disconnect the battery.
- It doesn't draw any current when the ignition is off.
- It won't flatten your battery. Your bike was already designed to run the headlights.
- You can still use a HID on the low beam, and the delayed on function will help reduce the HID's degradation from cold cycling the bulb. Do not use this upgrade if you have a HID on the high beam.

If your bike has one headlight for the low and one for the high, you will have the security in the emergency high beam feature¹ (option must be enabled). Bulbs don't last forever. At some point, your low beam bulb is going to fail. The Twinlight Driver³ will detect when this happens, and if in low light conditions, will automatically enable your high beam at 65% brightness for you. So you won't experience the shock of riding in the dark unexpectedly.

¹ Please confirm with you local regulations if these features can be legally enabled.

...Configuration Guide...

The Twinlight Driver³ has separate modes for “day light” and “low light” conditions. So during the day you can have a brighter mode, while having an appropriate mode for sunset to sunrise. It will switch between the modes you chose automatically, using the light sensor.

The high beam will be off with default settings. It is easy to change this to suit your preference. All the settings can be changed by turning on the ignition and **promptly** flashing the high beam with the passing button a number of times. The options below will tell you how many times to access each setting.

Once you turn ignition on, you must start to flash within 2.5 seconds.

The flashes only need to be “brief” presses. You can flash fast or slow. Once you have flashed the number of times needed, **wait!** A couple of seconds later it will accept the count you have entered.

All the features are described below. The one of most interest is “**Setting 3: Headlight Mode**”. If the Twinlight Driver³ is not turning on or working as you want, don’t panic, read the “Testing” section.

Setting 1 : Start Now

If you turn ignition on and want to bypass the delayed on timer, just briefly flash your high beam once.

Setting 2: Master On/Off

If the Twinlight is set to Master Off, it’s simply off! High beam still works as normal of course. If you turn ignition on and promptly flash twice, it will toggle between Master Off and Master On. Factory Default = On.

Setting 3: Headlight Mode

There are basically 3 groups of modes for the high beam light:

- **Modulator Modes:** Modulates between full power and a lower power.
- **Daytime Running Light:** Constant brightness, for those wanting the dual headlight look.
- **Lower Brightness Modulator Modes:** Lower brightness “discrete” versions of the modulator modes.

The Modulator Modes are designed to comply with the US, Canada and Australian regulations, which may only be used legally during daylight. The Lower Brightness Modulator Modes may be useful for night operation given the local regulations permit its use. The Daytime Running Light modes effectively reduces the brightness of the high beam light. It is designed to provide an alternative Daylight Running Light, where at suitably low settings does not dazzle oncoming traffic during the day. This may not comply with your local regulations, or may need to be under a certain brightness level to comply.

You can easily cycle through these modes to see what they look like and assign them to day light and low light use. **Turn ignition on and promptly flash 3 times.** After a short pause, it will show you the current mode. Momentarily flash to cycle through the modes or hold the flash for at least half a second then release, to go back one step.

After adjusting this mode, turn ignition off so the Twinlight resets.

You should set both the day time and night time modes to suit your preference. **It is strongly advised to only set the night time mode when it is dark.** If you were to cover the light sensor and set it during the daylight, you will most likely set it far too bright and/or not notice the significance of the modulation effect if selected.

	HEADLIGHT MODES
	With each flash, you go to the next mode down the list (loops back to top).
1	Off (default day light mode)
2	Modulator Discrete
3	Modulator Light
4	Modulator Lower*
5	Modulator Low*
6	Modulator Medium*
7	Modulator High*
8	Modulator Higher*
9	Modulator Max*
10	Off
11	Daytime Running Light 100%
12	Daytime Running Light 92%
13	Daytime Running Light 83%
14	Daytime Running Light 75%
15	Daytime Running Light 67%
16	Daytime Running Light 59%
17	Daytime Running Light 51%
18	Daytime Running Light 43%
19	Daytime Running Light 35%
20	Daytime Running Light 26%
21	Daytime Running Light 18%
22	Off (default low light mode)
23	Modulator Brightness 75%, Modulator Discrete
24	Modulator Brightness 75%, Modulator Low
25	Modulator Brightness 75%, Modulator Medium
26	Modulator Brightness 59%, Modulator Discrete
27	Modulator Brightness 59%, Modulator Low
28	Modulator Brightness 59%, Modulator Medium
29	Modulator Brightness 43%, Modulator Discrete
30	Modulator Brightness 43%, Modulator Low
31	Modulator Brightness 43%, Modulator Medium

* Modes designed to comply with regulations for daylight use of headlight modulators (Australia, US & Canada).

Setting 4, 5, 6, 7: Delayed On

There are four options to choose from to suit your preference for when the headlight first turn on.

Setting 4: Delayed on 8 to 20 seconds (Factory setting)

Low beam and the selected high beam mode turn on between 8 to 20 seconds. If you start the engine and the ignition has been on for at least 8 seconds, then the headlights will turn on. The headlights will always turn on after 20 seconds. Flashing the passing button will also turn them on.

Automatic engine start detection is not guaranteed to work with all bikes. However, you can train the Twilight Driver. It needs to know when the engine is off and when it is running to learn a baseline for each. To do this, you need to follow this process...

1. Turn ignition on and promptly flash 4 times (select setting 4).
2. Wait...
3. After 4 seconds, the low beam will flash once (now learnt baseline for engine off).
4. Start the engine and let it idle.
5. Wait...
6. After 7 seconds, the low beam will flash once and the training is complete and recorded.

If this training is unable to detect the engine starting reliably, see "setting 14" for a further alternative option.

Setting 5: 14 Second Delay

Low beam and Twinlight functions turn on 14 seconds after ignition on. Turn ignition on and promptly flash 5 times to pick this mode.

Setting 6: 8 Second Delay

Low beam and Twinlight functions turn on 8 seconds after ignition on. Turn ignition on and promptly flash 6 times to pick this mode.

Setting 7: No Delay

Low beam and Twinlight functions turn on shortly after ignition is turned on. Turn ignition on and promptly flash 7 times to pick this mode.

The headlights are actually turned on with half a second apart. Just to avoid the current surge if both were turned on at the same time. If in daylight, it may still take a few seconds for the shadow filter to acclimatise before enabling the high beam mode.

If your bike turns off the low beam while cranking, the TL3 will momentarily lose power. In which case, the timers restart. If your bike does this, it is recommended to use setting 4 or 6.

Setting 8: Master Reset

If you are unsure of the current settings, use this to reset all options back to the factory defaults. Turn ignition on and promptly flash 8 times.

Setting 9: DAY LIGHT Courtesy Function

Some of the modulator modes appear like a flashing light and can annoy drivers unnecessary. For example, while stationary or travelling behind other vehicles for long periods on highways. Those that do wish to use these highly conspicuous modes, may also be interested in enabling the Courtesy feature.

If enabled, a very brief flash will toggle the Twinlight on/off. If the high beam is flashed on for more than 0.5 seconds, it will not toggle on/off. There are separate courtesy enables for both day light and low light modes. If both are enabled, then toggling in either lighting condition will toggle both on/off. If only one enabled, then the toggle only works for that light mode.

You can enable/disable the Day Light Courtesy function by turning ignition on and promptly flash 9 times. You don't need to turn ignition off. Factory Default = Off.

Setting 10: LOW LIGHT Courtesy Function

Similar to setting 9, but for Low Light Courtesy function. This enables you to toggle the high beam function off when you are behind another vehicle or have oncoming traffic. Turn ignition on and promptly flash 10 times to toggle enable/disabled status. Factory Default = Off.

Setting 11: Courtesy Mode Start-up Default

This setting only applies if you have one or both of the courtesy functions enabled. Given the ability to toggle the Twinlight on/off, this option let you define if it starts in on or off mode when ignition is first turned on.

To toggle the start-up default, turn ignition on and promptly flash 11 times. Factory Default = Twinlight On.

Setting 12: Extended Sunset

If the light sensor doesn't have a good view of the sky and it is switching to low light mode before you prefer, this option may help. If enabled, it will wait until it's darker before going to low light mode. To toggle this setting on/off, turn ignition on and promptly flash 12 times. This feature may not be compliant for use with your local laws.

Setting 13: Emergency High Beam

If the low beam light is not drawing sufficient current (at least 1A), the unit will assume the bulb has failed. Given you enable this option and it is not daylight, and your low beam bulb fails, the TL3 will automatically enable the high beam light at ~50% brightness for you (overriding all other settings). This is a safety feature, so if your low beam bulb fails at night, the automatic high beam backup switches on quickly. You can still turn the high beam on full power using the bikes normal high beam switch.

Only enable this option if it complies with your local regulations. Use of the high beam may be restricted, such as when oncoming traffic is approaching, or when behind other vehicles.

You can toggle this feature on/off by turning ignition on and promptly flashing the high beam 13 times.
Factory Default = Off.

To momentarily test this feature, disconnect your low beam bulb. If enabled and it is at night time, the high beam will automatically turn on at 65% brightness.

Setting 14: Engine Start Detect Threshold

Only use this setting if the engine start detect (associated with setting 4) is not reliable. This overrides the trained settings and uses a basic 13.0V or 13.6V threshold setting. Turn ignition on and promptly flash the high beam 14 times to toggle between these two levels.

Testing

Once you install the unit, with default settings it needs 3 conditions to be met before you see something happen. The light sensor needs to see enough light (daylight). The ignition must be on for at least 20 seconds or it has been 8 seconds and the engine has been started.

Don't get confused between night time and "low light". The detection level has been set in accordance with regulations of some countries governing the use of headlight modulators (given setting 12 is not toggled on). If the sun has set, it's low light. Parked in the garage or within a dark shadow will be low light. The light sensor needs to get a clear view towards the sky for it to work accurately and as designed.

Adjust the Twinlight Driver³ to suit your preference. Use setting 3. You can cycle through the modes and pick the ones you want to have running, for both day light and low light conditions.

IMPORTANT DISCLAIMER

The information provided by Eclipsech 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 recommend 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.