

Shift Light pro

Installation and Operation Manual

Model SLP-U01

For use on ALL motorcycles, ATVs, cars and other vehicles

1. Foreword

Congratulations on your purchase of a HealTech Shift Light pro sequential programmable shift light module. The unit can be set up to indicate the optimal shift point or to indicate when the RPM is out of optimal range (too low or too high). This information is crucial on the track and useful on the street. Riding in the optimal rev range improves dynamics, saves fuel and extends service life.

The unit is extremely small yet it has features not found in competing products. It comes with a true color SMD Power LED (Flash rate, Duration, Brightness and Color are fully adjustable for three different RPM thresholds) while setting it up through your Android phone or tablet via Bluetooth connection is quick and easy!

2. Installation

Disclaimer: Do not attempt to install the product if you don't have basic mechanical skills. HealTech Electronics Ltd. and its distributors shall not be liable for any loss or damage caused by improper installation.

Connection overview:

SLP wire	Connect to
Red	+12V switched power lead. You may use the front running light hot wire, or any other power lead which is turned on/off with the ignition switch. If you have a GIpro installed, you may tap its red wire.
Black	Ground lead. You may use the front running light ground wire, or any other ground lead or chassis ground. If you have a GIpro installed, you may tap its black wire.
Black/Green	RPM signal lead. You may use the tachometer (rev counter) signal wire. Alternatively, tap the signal wire from the 2-wire Crankshaft Sensor (Pickup coil), anywhere between the sensor and ECU box. If you have a GIpro X-type installed, you may tap its black/green wire.

1. For testing, we recommend making temporary connections. You could use a thin needle to backprobe a connector pin (e.g. at the back of the dashboard connector). The SLP module leads are protected and wrong wiring will not do any harm.

Test #1:

Turn the ignition ON →

The SLP display should indicate an **"RGB" sign** (short red, green and blue flashes in sequence) on every power up.

Otherwise, the unit is not receiving power and/or ground.

Test #2:

Start the engine and let it idle →

The SLP display should indicate a **flashing Green sign** as long as an RPM signal is received.

Otherwise, the unit is not receiving an RPM signal.

Note: this test function works only when the unit programming is clear (see "Reset to defaults").

2. Peel off the green plastic from the back of the unit, and mount the display. Route the cable to the location where you make the connections.
3. Make the connections with the supplied **red wire tap** quick connectors.
Usage: Place the unstripped bike wire inside the run channel. Close the side cover until latched. Cut off the excess length, then insert the unstripped SLP wire completely and check its position. Insert the blade (u-contact) and press down by finger pressure. Then, fully depress the u-contact with pliers. Close the hinged top cover until latched. Remove the excess gel around the connector with dry cloth.
4. Secure the cable with the cable ties supplied, ensuring that the steering movement is not impaired by the cable and there's no tension.

3. Warranty

The SLP module is built to last with HealTech's industry leading build quality: all leads are protected against short circuits and high energy transients. Only high quality components have been used, and the epoxy layer construction gives extreme protection for the internal parts from shocks, vibrations and water.

To ensure trouble-free operation from the start, all units have been extensively tested prior to shipment. For this reason, please make sure you followed the install steps properly and check the connections before you report a problem.

Our dealers are offering a 30-day money-back guarantee on HealTech products if the product does not fulfill your expectations. *(All parts must be returned in original condition for full refund.)*

Furthermore the product is covered by our 2-year replacement warranty from the date of purchase.

Web: www.healtech-electronics.com

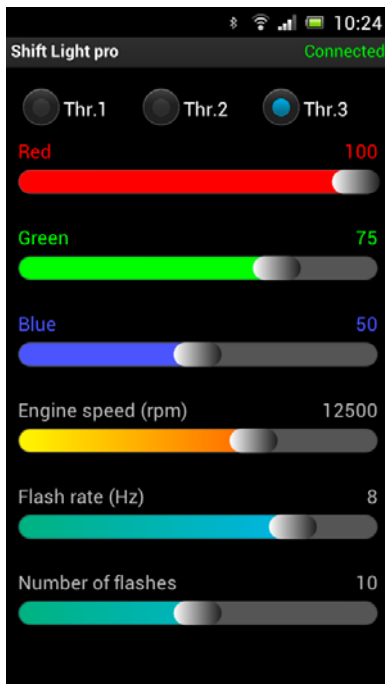
Email: support@healtech-electronics.com

4. Installing the app and making the initial settings

1. Install the **Shift Light pro** free app on your Android phone or tablet. In the Google Play store, search for "HealTech" to find the app. Alternatively, here's a direct link:
https://play.google.com/store/apps/details?id=com.HealTech.Shift_Light_Pro
2. Turn the ignition ON (confirm power up by the RGB sign).
3. Start the App.
4. Press the Menu button and then "**Connect**". Press "Scan for devices". In a few seconds, the "HealTech Shift Light pro" will show up, press it. Enter this code for Bluetooth pairing: **4325**
If the code above does not work with your module, enter: **heal**
Note: in this case, you need to select a checkbox to write letters.
After pressing OK, the "Disconnected" text should be replaced by a green "Connected" text.
5. Press the Menu button and then "**Settings**". You should see the "RPM not received" text.
6. **Start the engine** and let it idle. Now, an RPM value must be shown.
7. Check whether the indicated RPM value in the app is accurate (+/- 10%) or not at idle speed. If your vehicle does not have a tachometer, refer to the Owner's Manual for the idle speed value.
If the RPM value in the app is too high or greatly unstable, increase the "**Pulses per rev**" value by one, and wait for 3-5 seconds, until the RPM value in the app is updated.
Repeat this until the RPM value is shown correctly in the app.
8. Raise your RPM and hold it for a few seconds to verify the RPM indication at a higher revolution. Often the vehicle's rev counter shows a higher value (by 5-20%) than actual, while the SLP app shows the correct RPM.
We recommend to sync the SLP app indication to your tachometer reading by increasing the "**Tacho sync**" value by one, and wait for 3-5 seconds, until the RPM value in the app is updated.
Repeat this until the RPM value in the app is in sync with your tachometer at higher RPMs.
9. The required initial settings are now complete and saved in the module's Flash memory.

5. Using the app to set up the module

Overview:



Connected/Disconnected to the module

Select the Threshold (1-3) to set below

Red color brightness (0-100%)

Green color brightness (0-100%)

Blue color brightness (0-100%)

Engine speed (1000-18000 RPM)

Flash rate (0-10 Hz)

Number of flashes (0-20) if Flash rate > 0
Turn off delay (0-20 sec) if Flash rate = 0

The main screen shows the settings for the selected Threshold level. There are **three thresholds** which make it possible to set up up to three different points in the RPM range and assign them different color, brightness, flashing speed and flashing duration.

You can mix any color with the RGB sliders and then **preview** it on the SLP display by tapping the currently selected "Thr." button. The preview time is limited to 2 seconds, even if the bottom most slider is set for a longer duration. If the bottom most slider is set to "0", it means the module will not turn off the light as long as the RPM is in the set range.

The RPM slider moves in steps of 250. However, you may enter **any RPM value** (e.g. 7521) by tapping and holding the RPM value on the screen for a second.

The table below shows two very different configuration examples, but the customization possibilities are endless:

Thr. 1 (0, 20, 0, 4000, 0, 4)	Solid Green (20%) above 4000 RPM for 4 seconds.
Thr. 2 (40, 0, 0, 6000, 0, 4)	Solid Red (40%) above 6000 RPM for 4 seconds.
Thr. 3 (80, 80, 80, 8000, 10, 0)	Flashing White (80%) above 8000 until RPM drops.
Thr. 1 (40, 10, 0, 1000, 0, 0)	Solid Orange while rev is between 1000 and 2000 to indicate "RPM is too low".
Thr. 2 (0, 0, 0, 2001, 0, 0)	No light when the RPM is in the optimal range.
Thr. 3 (80, 0, 0, 5000, 4, 0)	Flashing Red above 5000 to show "RPM is too high".

After making the desired changes, you need to press Menu → **Upload**.
When the module is connected next time, the settings will be loaded automatically to the app from the module (even if you replace your phone).

It is possible to save the settings (Menu → **File**) to a file on the SD card, so you can switch between saved profiles with a few taps. If you wish, you can browse for the file and share a saved profile with your friends to make it easier for them to get started with the same settings.

The **Hysteresis** (Menu → **Settings**) prevents flickering when the RPM is hovering around the set threshold. It can be adjusted from 100 to 500 RPM. Setting it to 200 means, the light will turn ON at the set threshold (e.g. 4000 RPM) and it will turn OFF at the set threshold-200 (e.g. 3800 RPM).

You can setup a personal **PIN code** (Menu → **Settings**) to make sure no one else has access to your module. If you lose or replace your phone, you'll have to enter the PIN code at the first connection.

Beware, if you forget your personal PIN code, you'll have to return the module to us to clear it.

By default, the light does not turn ON at deceleration while going through the three thresholds from 3 to 1. If you wish, you can activate it by checking the **Enable LED when RPM is falling** option.

If you wish to set your module to factory default state, connect to the module and then press the **Reset to defaults** button.

Tips and Notes:

- The app automatically turns on the Bluetooth connection on the phone and turns off upon exit. However, if it was already on when you started the app, the state is not changed upon exit.
- The app prevents the screen from going into standby while the module is connected. However, you may switch to standby manually.
- Only one phone/tablet can be connected to the module at one time. If you can't connect, make sure other phones do not reserve the connection. You can pair and use more phones with the module, but not at the same time. Similarly, one phone can be paired and used with more SLP modules.
- Never look directly into the LED, especially if it was set for high brightness. The unit was designed to give you a bright indication while you keep your eyes on the track. Set for low brightness or turn it off when you ride at night.
- The white color has the highest brightness due to the fact that it turns on all three base colors (RGB) to mix this color.
- The SLP module incorporates a temperature sensor, which throttles down the brightness very slowly as internal temperature increases. You will not notice that, but it's there to ensure a long service life.