



## Wireless LED Helmet Brake & Turn Signal Indicators

(Patent Pending)

# USER MANUAL

The contents of this user manual are subject to change without any prior notice.

## Important

Thank you for purchasing our product. Please read this manual in its entirety before using the product & follow all instructions contained herein. This manual also serves as the warranty certificate; please keep it readily available for future reference.

## Features

**LIFE SPAR** is a wireless LED brake & turn signal indicators for motorcyclist safety helmet. It serves as an accessory providing motorcyclist with extra level of safety by complementing the primary brake & turn signal indicator found on the motorcycle.

The LEDs on the indicator module will blink or light up according to the brake or signal applied by the motorcyclist & hence increases the chances of being seen by other vehicles especially the taller ones such as buses, trucks, trailers, tractors etc.

- **Suit almost all types of motorcyclist safety helmets**
- **Powered by high brightness LEDs** – for maximum visibility, reducing conspicuity related accident.
- **Auto power on** – preventing user from forgetting to power on the device. (for Slot-In type only)
- **High capacity rechargeable battery** – save the trouble of replacing the disposable battery & save money in the long run.
- **Battery low indication** – reminding user to recharge the battery when it is running low.
- **Transmitter & indicator module pairing capability** – enabling indicator modules to be swapped within different motorcycles.
- **Detachable indicator module** – preventing the indicator module from theft when unattended & enabling helmet to helmet portability. i.e, the device should normally be used on a pillion rider when one is present. (for Slot-In type only)

## Important Precautions

- ✓ Always ensure that the indicator module is **TURNED OFF** when the device is not in use. Leaving the indicator module turned on will result in unnecessary drainage of the battery.
- ✓ **USE ONLY** the supplied wall adapter for battery charging purpose.
- ✗ **DO NOT** rely on this device as the sole source of brake & turn signal indicator. This device was designed to complement the primary brake & turn signal for extra level of safety.
- ✗ **DO NOT** drop, bend, or subject the device to strong vibration.
- ✗ **DO NOT** use this device when the battery is in LOW condition.
- ✗ **DO NOT** expose the device under extreme hot condition, such as near a radiator or oven.
- ✗ **DO NOT** store the device where strong magnetic field may occur, such as on a loudspeaker box surface.

## FCC Warning

Changes or modifications to this unit not expressly approved by the party responsible of compliance could void the user authority to operate the equipment. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, & (2) this device must accept any interference received, including interference that may cause undesired operation.

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly

approved by the party responsible for compliance could void the user's authority to operate the equipment.

## FCC Statement

This equipment has been tested & found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses & can radiate radio frequency energy &, if not installed & used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off & on, the user is encouraged to try to correct the interference by one or more of the following measure:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment & receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## Specifications

### Transmitter Module

Input Voltage:	9 – 16 V <sub>DC</sub>
Standby Current:	3.4 mA @ 12 V <sub>DC</sub>
Current Consumption:	20 mA max @ 12 V <sub>DC</sub>
Carrier Frequency:	433.92 MHz
Effective Isotropic Radiated Power:	< 50 mW
Dimension (W x D x H) <sup>1</sup> :	57 x 28 x 11.5 mm

### Indicator Module

Power Source:	Li-Pol Battery Pack with Circuit Protection Module
Battery Capacity:	350 mAh, typical
Battery Voltage:	3.7 V <sub>DC</sub> , typical
Standby Current:	11 mA @ 3.7 V <sub>DC</sub>
Current Consumption:	90 mA max @ 3.7 V <sub>DC</sub>
Dimension (W x D x H):	134 x 32 x 41 mm

### Estimated Hours of Continuous Operation per Charge Cycle

The table below illustrates the estimated hours of continuous operation per charge cycle based on different operating conditions. In example, if the brake and turn signal were applied 10% of the total usage time throughout the operation, the device is estimated to last up to 19 hours per charge.

Brake	Turn Signal					
	0%	1%	2%	3%	6%	10%
0%	25	25	25	24	23	22
1%	25	25	24	24	23	22
2%	24	24	24	23	23	21
3%	24	24	23	23	22	21
6%	23	22	22	22	21	20
10%	21	21	20	20	19	19

### Wall Battery Charger Adapter

Input Voltage:	100 – 240 V <sub>AC</sub>
Output Voltage:	5 V <sub>DC</sub>
Output Current:	500 mA max
Charging Time:	≈ 2 hours
Cord Length:	1 m




### Operating Environment

Charging Temperature:	10 ~ 40 °C
Charging Environment:	Indoor only
Operating Temperature:	0 ~ 55 °C, non-condensation

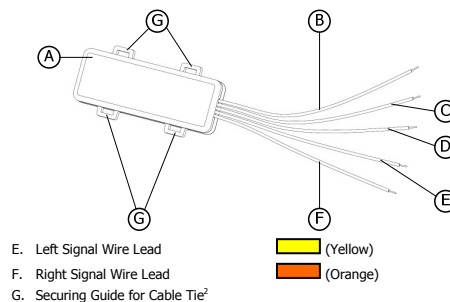
\* Specifications & designs are subject to change without any prior notice or obligation on the part of the manufacturer.

## Included Parts & Descriptions

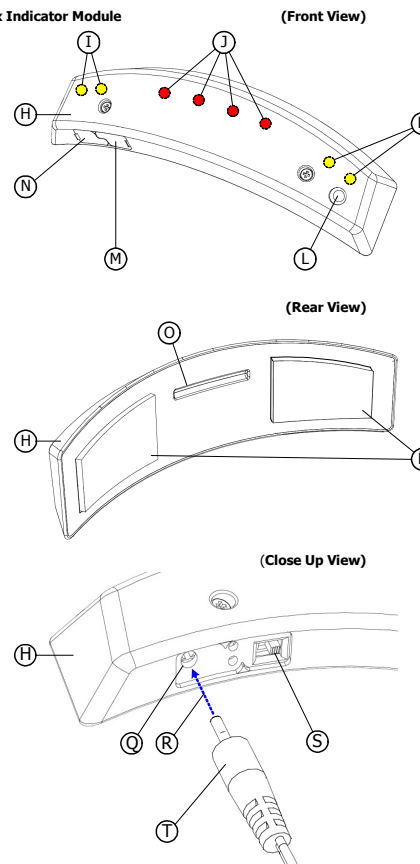
### 1 x Transmitter Module

A. Transmitter Module	 (Blue)
B. Positive Power Wire Lead	 (Black)
C. Negative Power Wire Lead	 (Red)
D. Brake Signal Wire Lead	

<sup>1</sup> Not including the wire leads (B), (C), (D), (E) & (F).



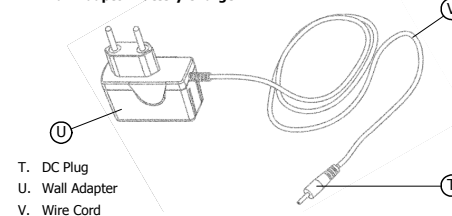
### 1 x Indicator Module



- H. Indicator Module
- I. Left Turn Signal Light Indicator
- J. Brake Light Indicator
- K. Right Turn Signal Light Indicator
- L. Pairing Button
- M. Slide Switch Cover (For Snap-On Type Only)
- N. DC Jack Cover
- O. Locking Guide
- P. Foam Adhesive Tape (For Snap-On Type Only)
- Q. DC Jack Socket
- R. DC Plug Insert Direction
- S. Slide Switch (For Snap-On Type Only)

<sup>2</sup> Cable tie not included

### 1 x Wall Adaptor Battery Charger



\* Drawing not to scale.

## Battery Charging & Level Indication

The rechargeable battery inside the indicator module is partially charged upon shipment. To use this device for the 1<sup>st</sup> time, the user is advised to fully charge the battery following the procedures below:

1. Detach the indicator module (H) from the helmet compartment. (for Slot-In type only)
2. Plug the wall adapter (U) onto the wall socket.
3. Pull out the DC jack cover (N) from the indicator module (H).
4. Insert DC plug (T) into the DC jack socket (Q) on the indicator module (H) as shown by the direction (R).
5. Turn the wall socket's switch on. A green light should be observed near the left turn signal light indicator (I), indicating the battery charging is now in progress.
6. When the green light goes off, the battery is now fully charged.
7. Turn off the wall socket switch; pull out the DC plug (T) from the DC jack socket (Q).
8. Put the DC Jack cover (N) back to the DC jack socket (Q). The device is now ready to be used.

### Battery Level Indication

When the indicator module (H) is turned on, the initial blink of the indicator lights report the battery condition. A good battery condition will result in all left (I), brake (J) & right (K) indicators blinking once.

A LOW battery condition will result in only the left (I) & right (K) indicators blinking once. User is advised to perform the battery charging operation immediately. Continue using the device under LOW battery condition is NOT recommended.

## Installation

