

# LUPINE®

LIGHTING SYSTEMS



## BETTY

### Instruction Manual

(Read before use!)



#### Content of package:

23 W Power-LED Lamp with PCS V7.1

Velcro straps

Instruction Manual (this document)

Technical Information PCS V7.1

# **1.) READ BEFORE USE!**

## **General:**

Congratulations! You have just bought the one and only Lupine LED Lamp – no other will give you more light!

The light and charger are ready to use immediately. Please read this instruction manual carefully and completely to familiarise yourself with all the functions. Before hitting the trails, try the system at home first to prevent any surprises while riding. For further details about individual settings of the Betty please read "*Technical Informations PCS V7.1*".

As with any other electrical device, there is a slight chance of failure at any time. Please be aware and use with caution.

Lupine accepts no liability for any injuries or other damages arising from the use of this product.

## **It might become hot!**

The Betty is not a simple torch. The lamp housing can become very hot if used without airflow. Do not touch the lamp during or immediately after use.

**If lamp is used without any airflow temperature control will reduce light power stepless up to 6 W after some minutes automatically.**

## **Dazzling:**

The Betty is a powerful lighting system. Always use it with care and with respect for others (especially when mounted to a helmet). Do not look directly into the light.

## **Waterproof?**

All components of the Betty are waterproof and will withstand even the most extreme conditions. However, it is not a diving lamp and therefore not suitable for use under water.

## **Warranty:**

The two year warranty covers defects in materials or workmanship only. Modifications to the light or improper use also voids this warranty.

## **2.) MOUNTING**

### **Lamp:**

Mounting the lamp with the O - ring :

If you are feeling strong, use the finger hook method (see fig.1). For others, who prefer the less strenuous method, hold the O-ring with one finger, and push the lamp back until the O-ring can be secured on the hook of the lamp. (fig.2)

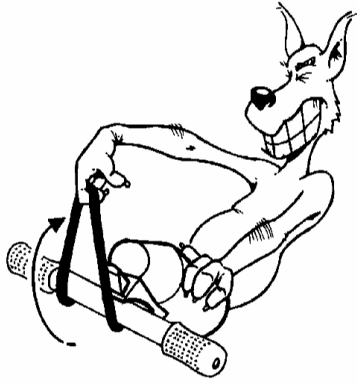


fig.1

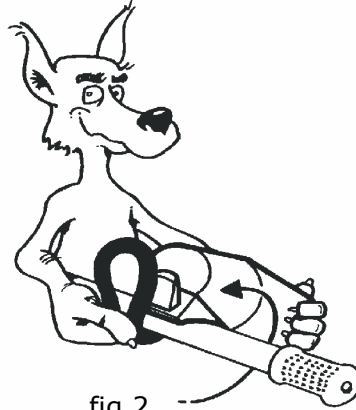


fig.2

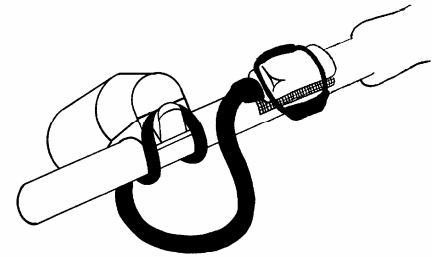


fig.3

### **PCS V7 switch :**

The PCS V7 is designed for use on the right hand side of the lamp (see fig.3). Before attaching the velcro strip to the handle bar, ensure that the surface is free of dirt and oil. The velcro strip should be applied at room temperature, colder temperatures will cause the adhesive not to work.

For applying the O-Ring to fix the switch to the handlebar see the separate information sheet "*Technical Information PCS V7.1*".

An optional upgrade mounting bracket for the switch is also available (Peppi V3).

Now plug the existing rechargeable battery to the lamp and your Betty is ready to go.

### **3.) USING THE LIGHT**

#### **Initialising:**

**After connecting the lamp to the rechargeable battery, the software will start a self-test (the 4 LEDs of the PCS will flash) The Power LEDs will flash once. The batteries voltage will be indicated with the blue and green LED. Now the Betty is ready for use. (Please read also "*Technical Information PCS V7.1*")**

#### **Switch on:**

By pressing the PCS switch for the first time, the beam starts running on maximum power. The blue and green LED will glow.

#### **Dimming:**

Pressing the button once, after the light has stabilised, will switch the light to low beam (the blue LED is off). By pressing the button again the light will return to high beam mode.

#### **Switch off:**

You can switch off the Betty by pressing the PCS button longer than 2 seconds.

#### **Controlling the remaining light time:**

The electronics of the PCS V7.1 not only control the high and low beam; they also protect the rechargeable battery against over-discharge and include a low battery indicator.

Low battery is signalled by the yellow and the red LEDs.

When the yellow LED lights: Red / yellow LEDs and Power LED's blinks:	Significant amount of the capacity is gone!  Light will automatically switch off in a few minutes!
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It is a matter of experience to interpret exactly how much time is left after the LEDs light up. Remaining burn time depends on the battery's age and capacity, the operating temperature and the capacity gauge program (Low, Middle, High; see "*Technical Information PCS V7.1*").

**Hint:** When the yellow and the red LEDs light up you can increase the remaining burn time with economical use of the high beam.

#### **Reserve tank:**

When the battery is almost empty (yellow **and** red LEDs have been lit for several minutes already) the lamp switches off automatically. By double clicking the switch the reserve tank is activated, which provides some additional hours of emergency light. A flashing red LED indicates the reserve tank has been activated. The performance of the reserve tank also depends on the battery condition.

When the reserve tank is empty, the light will switch off and must not be restarted.

**Attention ! Reserve tank is not available if 0.25 W level is used for a longer time.**

**Caution!** Switching on is not possible at this point. If you unplug the battery and then re-attach it, you will have only unreliable light for some seconds!

**Never store a discharged battery. Recharge your battery as soon as possible!**

### Explanation of the LEDs:

Blue LED lights:	High beam (Maximum Power)
Green LED lights:	Low beam
Yellow LED lights:	Significant amount of burn time consumed
Yellow + Red LED blinks:	Rechargeable battery almost empty <b>Caution!</b> Light will switch off very soon without further notice – Stop!
Red LED flashes:	Reserve tank activated

### Programming :

You can adapt the PCS of the switch to your needs. This programming is explained in detail in the "*Technical Information PCS V7.1*" and is done exclusively using the switch and LEDs.

## 5.) CARE AND STORAGE

### Lamp:

All components should be cleaned with warm soapy water, but do not use a high pressure spray or hose to clean the system. To get all water out of the housing etc. turn the light on for a few minutes. If there is any moisture inside the housing or lens system, please open the screw top, wait some minutes or dry the glass inside and close the top properly. Please note that the top has to be closed completely, otherwise housing is not waterproofed !

### Connectors:

In normal conditions, the connectors do not need special attention. However if you use the light in very humid and/or corrosive conditions they should be greased with the included Dutch grease. **Do not** use contact-sprays or contact-greases! They contain corrosive ingredients that will damage the connectors.

### Transport:

In case you transport your light in its bag or a other box so that the PCS button might accidentally be pressed: **Always unplug the battery from the lamp unit.**

### Storage:

For short periods of time, store the battery fully charged. **Disconnect it from the lamp unit.** Before using the system again, re-charge the battery fully. If you intend not to use it for a longer period (over 3 months), **we strongly recommend to store the battery in a cold place.** This will prevent the battery from over-discharging.

## **6.) TROUBLESHOOTING**

<b>Failure</b>	<b>Caused by</b>	<b>Solution</b>
<b>Lamp does not light <u>and</u> the LEDs on the PCS <u>do not</u> flash during initialisation.</b>	Over discharged battery.	Charge!
	Battery is not or not correctly plugged into the light.	Check all connections
<b>Lamp does not light, LEDs of the PCS <u>do</u> flash during initialisation.</b>	Power LED are faulty	Replace LED insert
<b>Burn times are too short.</b>	Battery was not in use for a long time	Please charge the battery
	Battery is new.	
	Battery is very old	Replace with new battery
	Cold temperatures	Keep the battery warm
	Charger is defective	Replace charger

## **7.) TECHNICAL DATA**

### **Lamp:**

Weight complete with rechargeable battery: 155g  
 Input : 6.5 – 8.5 V = ( all Lupine batteries )  
 Light output: 1750 lumen  
 Temperature range: - 25°C - +70°C  
 Beam angle LED: 16°  
 Burn times may vary depending on battery's age, condition and temperature.





## **IMPORTANT NOTES:**

Use of this lighting system might be limited differently from country to country depending on the purpose you use it for. Please do inform yourself about possible restrictions in your country.

The mounting device and the design of the Betty as well as of the PCS are protected by worldwide patents.

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