

LUPINE®

LIGHTING SYSTEMS



TESLA 5

Instruction Manual
(Read before use!)



Content of package:

- 12 W programmable High- Power-LED Lamp
- Li-Ion battery bag 5 Ah / 7.2V
- Lupine Charger Wiesel V 3
- Helmet Mount with 1,2m extension cord
- Instruction Manual (this document)
- Helmet Mount Manual



1.) READ BEFORE USE!

General:

Congratulations! You have just bought the brightest single 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, first try the system at home to prevent any surprises while riding.

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.

Rechargeable Battery:

The battery is supplied with a very small amount of charge. Before use **it must be fully charged** (see chapter 4 "Charging"). The rechargeable Li-Ion battery will reach its full power after 1 charge cycle.

It might become hot!

The Tesla 5 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 3 W after some minutes automatically.

Dazzling:

The Tesla 5 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 Tesla 5 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. Batteries are not covered by this warranty. 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)

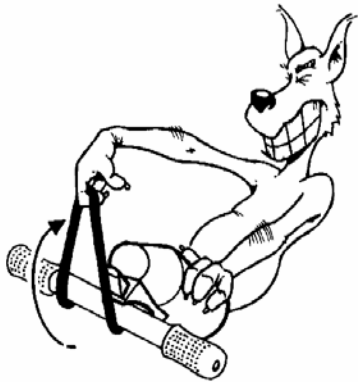


fig.1



-fig.2

Lamp Left-Right adjustment:

The mount can be moved by 7° on each side. This helps to adjust the lamp to freeride or downhill bars.

Battery:

Mount the rechargeable battery to the frame as shown in fig.4. Loop the Velcro strap around the top tube and adjust it carefully. Secure the battery pack on the frame by adjusting the length of the strap (before closing it!!) and fix it around the down tube

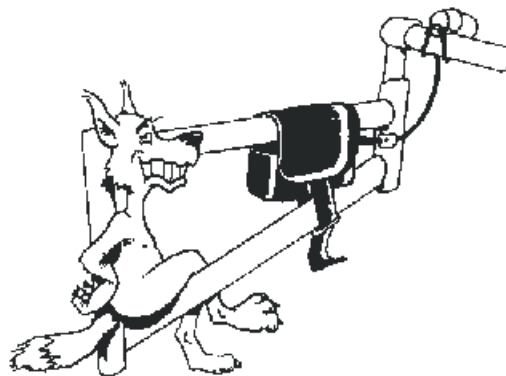


fig. 4

Now plug the rechargeable battery to the lamp and your Tesla 5 is ready to go.

Note:

In order to make sure that the left-right adjustment is still possible while riding, please fix the screw only with a midrange torque.

Red Alert !

Please use only the short black Tesla screw, don't use screws from other Lupine's, they are longer and will destroy electronic inside immediately.

Please also use the black Tesla screw with the optional oversized mount.

3.) USING THE LIGHT

Initialising:

After connecting the lamp to the rechargeable battery, the software will start a self-test, the Power LED will flash once. The batteries voltage will be indicated with the blue and red LED, please read more in the section " Hints "

Now the Tesla 5 is ready for use.

Switch on:

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

Dimming:

Pressing the button once, after the light has stabilised, will switch the light to middle beam. By pressing the button again the light will go down to low beam. After pressing the button again, the light return to high beam mode.

3 steps:	12 W	2 steps:	12 W
	4 W		
	1.5 W		1.5W

Switch off:

You can switch off the Tesla 5 by pressing the button longer than 2 seconds. After you have turned off the lamp (but battery is still connected) blue LED will glow for some seconds.

Controlling the remaining light time:

The electronics 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 red LED.

When the blue LED lights:

Red LED lights:

Red LED flashes:

Red and Blue LED flashes:

Battery capacity is fine

Significant amount of the capacity is gone!

Very low capacity, only some minutes runtime !

Reserve tank activated

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 and the operating temperature.

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

Reserve tank:

When the battery is almost empty (red LED have flashed for several minutes already) the lamp switches off automatically. By double clicking the switch the reserve tank is activated, which provides some additional time of emergency light. **The flashing red and blue 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.

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

4.) Charging the rechargeable battery

Connection:

Plug the Wiesel V3 into the mains. The charger will be now ready to charge.

Charging:

Plug the rechargeable battery into the Wiesel's connector and charging will start automatically. The green LED light.

Hint: if a fully charged battery will be connected with the Wiesel, no green LED lit at all (battery is full), this should be confusing.

If no green LED light up – battery is fully charged or less than 20% discharged and charging is not necessary

Keep the rechargeable battery plugged into the Wiesel until the green LED lights.

Charging is now complete; the battery is full and is now ready for use.

Caution!!

Wiesel is designed to charge only Li-Ion batteries! **You must not use this charger with Ni-MH batteries or unchargeable batteries!! They will explode!!** Wiesel should not be opened by the user as this will invalidate the warranty.

Explanation of the LEDs:

Green: charging
"no LED " battery fully charged

5.) Programming the PCS

The new Power Control System offers easy to handle settings to fine tune the lighting system to individual needs. Out of the box, Tesla 5 comes with a 3 step mode. Available are two other settings:

- 2 step mode
- 2 step mode + RVLRL
- Setting the capacity control to high
- Setting the capacity control to low

Programming is easy, simply press the switch and hold it down until the light flashes the required number of times and then release.

If the light is turned OFF and you start the programming sequence, please ignore the first light flash. If the light is turned ON when you start the programming sequence the first flash you see is stage 1 of programming (2 Step Mode).

Keep the button pressed and then release:

for 5 seconds	1st lamp flash	2 step mode
for 10 seconds	2nd lamp flash	3 step mode
for 15 seconds	3rd lamp flash	2 step+RVLRL
for 20 seconds	4th lamp flash	battery hi
for 25 seconds	5th lamp flash	battery low

If battery low is activated, lamp head will light up twice after connecting to the battery.

Hints

Voltage:

After initialising the software, the voltage will be indicated as follows:

**First, the blue LED will blink 1 time per volt,
then the red LED will blink 1 time per 1/10 volt**

Example: The blue LED blinks 7 times and the red LED 5 times = the voltage measured is 7.5 V. This information will help you to judge the actual condition of your rechargeable battery before use:

Between 7.5 and 8 V : fully charged. Between 7 and 7.5 V : Re-charge battery if it is not an older battery. Between 6.5 und 7 V : Not ready for use.

Hint: You don't have to wait for the whole voltage information to be shown in order to use your lamp. You can stop the voltage information at any time by switching on the beam.

Note: Even if the Power-LED is faulty, the LEDs will flash as above. If the light does not illuminate despite a successful initialisation, the failure is not caused by the PCS but from a serious damage.

Capacity control

The PCS monitors the capacity of the rechargeable battery by measuring the voltage. Unfortunately voltage and capacity are not exactly proportional which is why Lupine does not quote an exact remaining capacity when the yellow and red LEDs light up. It takes some experience of using the lighting system to tell exactly how much burn time is left when the yellow LED lights up. Accordingly, it also varies how much burn time is left when the red LED lights up. The factory default capacity control will be suitable for a long time. It is not recommended to change the capacity control until you have experienced a remarkable loss of burn time.

"High"

This is the default for Li-Ion rechargeable batteries.

The yellow and red LEDs will light up with a large amount of burn time remaining due to the behaviour of the battery type. If used with an extension cord or used in very cold temperatures, it should be more accurate to set the capacity control to "low".

"Low"

This capacity control should be used for older rechargeable batteries or if the lamp is used in very low temperatures. The yellow and red LEDs and the reserve tank are activated with very little capacity left. This benefits old batteries with sufficient capacity but with weaker voltage.

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.

The battery is water resistant. Unlike other lighting systems, the bag is easy to open. If used in very wet conditions, please open the bag over night, pull the battery out of the bag to remove all water.

Opening the Screw Top - moisture inside the lamp:

Little moisture on the inner side of the front glass may occur. This is no serious problem and easily to solve.

Open the casing. Please open the screw-on top on the front of the casing: Hold the back part of the casing with one hand, with the other hand, turn the screw-on top counter-clockwise. Having removed the top, you can see the reflector, the front glass and the sealing.

Please notice the right assembling :
Reflector – glass – silicone O-ring.

Please allow all parts some minutes to dry properly. Sometimes it's also helpful cleaning the glass with a soft small towel.

Then it's time to re-assemble your Tesla.

First insert the O-ring silicone sealing properly in the top. Please insert the glass into the top. Now you can close the top.

Important: The top must be screwed onto the thread in the correct position. If the thread runs smooth, the top is in the right position. Otherwise, please stop, re-screw the top and try again or you might damage the thread. Please be cautious!

Please make sure that the top is really closed completely, otherwise the casing will not be waterproof.

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 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 a bag or a box so that the 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

Failure	Caused by	Solution
Lamp does not light <u>and</u> the LEDs on the Lamp <u>do not</u> light during initialisation.	Over discharged battery.	Charge!
	Battery is not or not correctly plugged into the light.	Check all connections
Lamp does not light, LEDs of the Lamp <u>do</u> flash during initialisation.	Power LED are faulty	Replace LED insert
Burn times are too short.	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:	320g
Capacity of rechargeable battery / Voltage:	5 Ah 7.2 V Li-Ion
Light output:	700 lumen
Burn time 12 W:	3 hours
Burn time 1,5 W:	24 hours
Temperature range:	- 25°C - +70°C
Beam angle LED:	13°

Burn times may vary depending on battery's age, condition and temperature.

Charger:

Input:	100 – 240 V~, 50-60 Hz
Charging current:	1.2 A max.
Suitable batteries:	Li-Ion 2 cells 7,2 V
Display:	Control of charging by a green LED
Charge Time:	5 hr



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 Tesla 5 as well as of the PCS are protected by worldwide patents.

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