

# LUPINE®

LIGHTING SYSTEMS



## TL 700

### Instruction Manual

(Read before use!)



#### Content of package:

12 W programmable High- Power-LED Torch  
Li-Ion battery 2.5 Ah / 7.2V  
Lupine Micro Charger with AC/DC adaptor  
12 V car adaptor  
Instruction Manual (this document)



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

## **General:**

Congratulations! You have just bought the brightest single LED Lamp – no other will give you more light in this size!

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 TL 700 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 TL700 is a powerful light. Always use it with care and with respect for others. Do not look directly into the light.

## **Waterproof?**

All components of the TL 700 are splash proofed 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.

## **Attention:**

**Used batteries have to be put into especially reserved collection receptacles.**

**Please pay attention that you do not deliberately turn the light to somebody else's eyes. In case the light beam hits your eyes, close the eyes and turn your head away so that you are out of the direct light beam.**

**Don't use any magnifying instruments for light beam testing purposes. In case of commercial usages, the user of the lamp must be instructed by the advice of the International Commission on Non-ionizing Radiation Protection (ICNIRP) and national advices for safety and health.**

## **2.) USING THE LIGHT**

### **Initialising:**

**After connecting the lamp to the rechargeable battery part , 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 TL 700 is ready for use.**

### **Switch on:**

By pressing the switch for the first time, the beam starts running on maximum power ( except the low start is choosen ) .  
The blue LED will glow.

### **Dimming:**

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

<b>3 steps:</b>	<b>12 W</b>	<b>2 steps:</b>	<b>12 W</b>
	<b>4 W</b>		
	<b>1.5 W</b>		<b>1.5W</b>

### **Switch off:**

**You can switch off the TL 700 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.

### **Reading the consumed capacity:**

After turning off the lamp the consumed capacity will be indicated as follows:

**First, the blue LED will blink 1 time per complete ampere hour, then the green LED will blink 1 time per 1/10 ampere hour.**

Example: The blue LED blinks 1 time and the green LED 5 times = the gone capacity is around 1,5 Ah. This information will help you to judge the actual condition of your rechargeable battery before the next use.

**Hint:** PCS will count the consumed capacity always if the lamp unit is connected to the battery part . But if the battery part is disconnected, counting will start from the beginning.

### **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.

**Yellow LED lights:**

**Red LED lights:**

**Red LED flashes:**

**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 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**

### Components:

The charging system of the TL 700 consists of two components:

- AC/DC adaptor
- Micro-Charger

The Micro-Charger was developed for use with Lupine's high current Li-Ion rechargeable batteries from AC/DC adaptor or with additional available 12 V car adaptor.

### Connection:

Plug the AC/DC adaptor into the mains. Plug the adaptor into the socket of the Micro-Charger. After a short green flash the Micro-Charger flashes orange and will be now ready to charge.

### Charging:

Plug the rechargeable battery into the Micro-Charger's connector and charging will start automatically. The orange LED and the blue LED light.

**Keep the rechargeable battery plugged into the Micro-Charger until the green LED lights.**

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

### Reading the charged capacity:

After disconnecting the battery the Micro-Charger will indicate the charged capacity as follows:

**First, the orange LED will blink 1 time per complete ampere hour, then the green LED will blink 1 time per 1/10 ampere hour.**

Example: The orange LED blinks 1 times and the green LED 5 times = the charged capacity is around 1,5 Ah. This information will help you to judge the actual condition of your rechargeable battery before use.

**Hint:** You don't have to wait for the whole voltage information to be shown in order to use your charger again. You can stop the charge information at any time by connecting the battery.

### Caution!!

Micro-Charger is designed to charge only Li-Ion batteries!

**You must not use this charger with Ni-MH batteries or unchargeable batteries!! They will explode!!**

Micro-Charger should not be opened by the user as this will invalidate the warranty.

### Explanation of the LEDs:

Orange: Charging  
Green: Rechargeable battery full

## 5.) Changing the light modes

The new Power Control System offers easy to handle settings to fine tune the light to individual needs. Out of the box, the TL 700 comes with a 2 step mode. Available are several other settings:

2 step mode low	( 12 W + 1.5 W )
2 step mode high	( 12 W + 3 W )
2 step mode with disorientation mode	( 12 W + 12 Hz )
3 step mode with SOS	( 12 W + 1.5 W + SOS )
4 step mode	( 12 W + 8 W + 4 W + 1.5 W )
1 step mode	( 12 W )
stealth mode on	( no light on the switch )
stealth mode off	
low start on	( starts with the lowest level )
low start off	

**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	1 st flash green	2 step low
for 10 seconds	2 nd flash green	2 step high
for 15 seconds	3 rd flash green	2 step disorientation
for 20 seconds	4 th flash green	3 step SOS
for 25 seconds	5 th flash green	4 step
for 30 seconds	6 th flash green	1 step
for 35 seconds	1 st flash blue	stealth on
for 40 seconds	2 nd flash blue	stealth off
for 45 seconds	3 rd flash blue	low start on
for 50 seconds	4 th flash blue	low start off

## Hints

### **Voltage:**

After connecting the battery part to the lamp unit, 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.

## 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 torch. Please make shure that the battery part is connected properly to the lamp unit.

### **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 srew-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.**

**Transport:**

In case you transport your light in a bag or a box so that the button might accidentally be pressed: **Always unscrew the battery part 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 Lamp <u>do not</u> light 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 Lamp <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:	260g
Capacity of rechargeable battery / Voltage:	2.5 Ah 7.2 V Li-Ion
Light output:	700 lumen
Burn time 12 W:	1.5 hours
Burn time 1,5 W:	20 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:	2 A max.
Suitable batteries:	Li-Ion 2 cells 7,2 V
Display:	Control of charging by a green LED
Charge Time:	max1.5 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 design of the TL 700 as well as of the PCS are protected by worldwide patents.

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