



## LUPINE PIKO R 4 SmartCore Helmet Light User Guide

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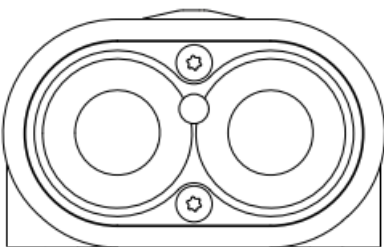
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## LUPINE PIKO R 4 SmartCore Helmet Light User Guide



2100 lm **PIKO R**

## Read this manual before using

### **Safety instructions:**



**Warning!** Avoid looking directly into the light emitted by the light or shining the light into your own eyes or the eyes of another person. If the light accidentally shines into your eyes, close your eyes and move your head out of the light beam. Do not use any strongly focusing optical device to look at the light beam. In cases where the light is used in a public or commercial setting, users should be provided with training concerning the safety measures for laser light.

This device may then be used by children 8 years of age or older, persons with limited physical, sensory or mental capabilities, as well as persons with no previous experience in handling such devices, if they are supervised by a person responsible for their safety .



**Attention!** Risk group 2: Proven optical radiation! Do not look into the lamp for a long time during operation. May be harmful to the eyes. Danger of glare: The strong glare of the lamp can be temporary Eyesight and afterimages feel dying Irritation, authorizations or treatment commands can.

**Re-charge you battery before using the light. Carry a spare light with you at all times, as the product can potentially fail unexpectedly at any time.** In the event of any physical or internal battery failure, do not attempt to repair. No user-servicable parts!

### **Automatic cutoff BLUETOOTH:**

If the lamphead is connected to the battery, without switching the light on, the Bluetooth module will automatically deactivate after 2 hours. You now can NOT turn on the light via the Bluetooth remote. Either press the lampheads switch, or reconnect the battery to start the Bluetooth module or light.

**Heat generation:** The housing of Piko R may heat up; so make sure that you always keep the light at a safe distance to any combustible or flammable materials. Could cause fire or death! However, quiescent operation (without cooling the light housing via airflow or the like) is possible at any time and will not damage the product. When the light is being used in a stationary state, the light will be dimmed after a few minutes to reduce the light's temperature. Continuous operation at 20 watts is only possible with air flowing over the housing!

### **Important! Always disconnect the battery from the light at transport or storage!**

Otherwise the small amount of power used by the electronics will discharge the battery, and the lamp may be switched on accidentally.

**Water resistance:** All Piko R components are waterproof and can of course be used under extremely severe conditions. The lamp complies with IP protection class 68 but is NOT a diving lamp and is NOT suitable for use under water.

## Operation

### **Initialization & voltage display:**

After connecting the lamp to the battery, the software runs a selftest. The lamp itself as well as the red and blue LEDs in the switch light up once. The battery voltage is indicated by the blue and red LEDs, as follows:

- The blue LED flashes once for each volt; and then
- the red LED flashes once for each 1/10 of a volt.

*Example:* The LED flashes seven times blue and five times red = battery voltage is 7.5 V.

### ***Interpreting the voltage display:***

more than 8.0 V → battery is fully charged:

7.1 to 7.8 V → battery needs charging

6.5 to 7 V → battery is not ready for use

### ***Turn on:***

The first press of the button switches on the light with maximum power. The blue LED is illuminated.

### ***Switching:***

Each quick push of the button switches through the dim levels.

### ***Turn off:***

To turn off the lamp, keep the button pressed.

**Note:** The light outputs the maximum amount of light only if airflow lowers the temperature of the light sufficiently. If the light is not cooled by airflow, its power is reduced incrementally to prevent the LEDs and electronic elements from overheating.

## **Meaning of LED colours**

The switch on the lamphead as well as the Bluetooth remote are equipped with a RGB-LED to show informations about the dim level and the remaining battery capacity.



	blue LED lit:	Lamp is on high beam.
	green LED lit:	Lamp is on a lower beam.
	red LED lit:	<b>1. Battery Warning</b> , low capacity remaining. The red LED is lighting. You can adjust the timing of the battery warning, see programming on next page.
	red LED flashing + light flashing once:	<b>2. Battery Warning</b> , very low capacity remaining. The red LED is flashing and Piko R flashing ones, too.
	blue + red LED flashing in turn + light flashing 5 times:	<b>Warning!</b> The red and blue LED flashing in turn, the lamp flashes 30 times. <b>Stop immediately!</b> The light will be switched off.
	blue + red LED flashing in turn:	After switching the light on again, reserve power at a low beam is available. When reserve power is completely discharged, the light will be switched off automatically. So slow down!  <b>Note:</b> The burn time remaining after the red LED is illuminated depends on the total battery capacity, the ambient temperature and the age of the battery.




## Programming

### Light Levels:

By default, the Piko R operates in the 3-step mode, several other light programs are available. They are very easy to select by simply keeping the button pressed until the button's red or blue LED flashes once, twice, etc. When taking your finger off the button accordingly, the setting will be saved.

Press the top button  
until it lights...

Available adjustments

 Default setting

Programs	1x red	Release the button, SOS or Diffuse activated
	1x blue	2 - Step
	2x blue	3 - Step diffuse
	3x blue	4 - Step
	4x blue	3 - Step
	5x blue	3 - Step diffuse
	6x blue	3 - Step with RVLR
Special functions	1x red	Diffuse on (default) / off
	2x red	Start with highest beam (default) / lowest beam
	3x red	Early „battery low warning“ (default)
	4x red	Late „battery low warning“
	5x red	Setup mode for 1x red blink: Diffuse light (default) / SOS
	6x red	Doubleclick / off (default)
	7x red	Stealth on / off (default)
	8x red	Autostart after power interruption: on (default) / off
	1x green	Bluetooth Connect
	1x red	Reset

## Dim Levels and Runtimes

		Output		Runtime Piko R with 2.0Ah battery	Runtime Piko R with 3.5Ah battery	Runtime Piko R with 6.9Ah battery
2-Step	➔	20 W	2100 lm	45 min	1:15 h	2:30 h
		1.5 W	230 lm	9 h	17 h	33 h
3-Step diffuse	➔	20 W	2100 lm	45 min	1:15 h	2:30 h
		6 W	750 lm	2:15 h	4 h	8 h
		2 W	60 lm	7 h	12 h	25 h
		(Diffuse)				
4-Step	➔	20 W	2100 lm	45 min	1:15 h	2:30 h
		10 W	1100 lm	1:30 h	2:30 h	5 h
		3 W	450 lm	4:45 h	8 h	16 h
		0.3 W	55 lm	47 h	80 h	160 h
3-Step	➔	20 W	2100 lm	45 min	1:15 h	2:30 h
		10 W	1100 lm	1:30 h	2:30 h	5 h
		1.5 W	230 lm	9 h	17 h	33 h
3-Step diffuse	➔	20 W	2100 lm	45 min	1:15 h	2:30 h
		10 W	1100 lm	1:30 h	2:30 h	5 h
		0.5 W	6 lm	28 h	50 h	100 h
		(Diffuse)				
3-Step with RVLR	➔	20 W	2100 lm	45 min	1:15 h	2:30 h
		6 W	750 lm	2:15 h	4 h	8 h
		RVLR				

Runtime varies according to battery age, and condition, as well as ambient temperature.

## **Special functions**

### ***Activate diffuse light / SOS:***

To activate diffuse light or SOS (depending on the programming), keep the button of the lamphead pressed until it lights up red once, let go immediately. The light setting is activated. You choose and setup the diffuse light or SOS further down in the programming

### ***Programming diffuse light on/off:***

The diffuse light level can be activated or deactivated in the respective light program.

Example: When it's deactivated the default light setting would only light with 20W and 6W.

### ***Stealth:***

The LED indications will be reduced to a minimum. For example, there's no voltage display after connecting the lamphead to the battery.

### ***Autostart after power interruption:***

When the power is interrupted/disconnected and current flows again, the lamp lights up in the last used light level without having to switch it on manually.

Example: If the battery is disconnected from the lamp while it's on and the battery is reconnected, it will light in the last used light level.

### ***RVLR: (3-step RVLR)***

This mode includes an additional slow flash mode.

### ***Start with lowest beam:***

The lamp will not start at maximum power as by default, but at the lowest stage.

### ***Doubleclick:***

The lamp may only be switched on with a quick double click. Useful for anybody who wants to avoid that the lamp is switched accidentally in particular during transport (e. g. in a backpack).

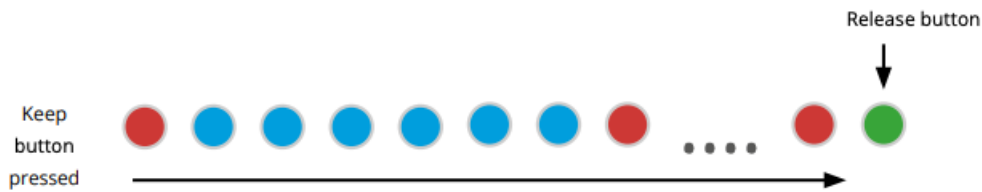
### ***Bluetooth Connect:***

#### Connecting remote control:

Keep the lamp's button depressed until the switch turns up green, let the button go. The receiving mode is active for approx. 30 seconds. During this time, press the remote control's green button until the remote does light up green, too. Release the button.

#### Connecting with app:

Start the „Light Control 2.0“ app. Choose the Piko and keep the button on the lamphead pressed, until it lights up green as shown in the programming scheme (p. 24), let the button go immediately.



### ***Reset:***

Resets the lamp to default setting without disconnecting the Bluetooth connection to the remote control.

### **Bluetooth Remote**

The Bluetooth Remote comes together with the Peppi V5 barmount (helmet & bikelights) or a bracelet (Headlamps). On the bike, the best way to mount the remote is directly next to your grips so you have full control and don't need to take off your hands while riding. The bracelet can be attached to a lot of other things like ski poles, too.



### ***Connecting the transmitter to the light:***

By default, your lamp has already been connected to the transmitter.

For establishing a connection, the receiving mode in the lamp has to be activated.

Keep the lamp's button depressed the switch turns up **green** (after 15 sec) and let the button go. The receiving mode is active for 30 seconds. During this time, press the remote control's button until the remote does light up **green**, too. → release the button.

### ***Several lamps on one transmitter:***

It is possible to connect up to five lampheads to a single remote switch.

### ***Several transmitters on one lamp / Unbinding:***

Up to 4 transmitters may be connected to one lamp. The transmitters are stored in the lamp in turn. If you like to remove a transmitter from the light, set the light into receiving mode and keep the switch of the transmitter pressed until it turns red. (Aprox. 20 sec.)

### ***Enable/Disable the remotes permanent LED light:***

Keep the remote button depressed: The LEDs must turn green then blue again.  
→ release the button.



### ***Low battery warning from lamphead:***

The remote mirrors the lamphead's low battery warning.  
A fully charged or partly discharged battery will be shown by a red LED light. Details see page 36.

There will be no warning if the remotes button cell itself is empty.

### ***Low button cell:***

With decreasing voltage, the remotes LEDs will also become weaker, to the point the remote does not work anymore. Also cold temperature does reduce the battery voltage.

### ***Transmitter battery change:***

For changing the battery, loosen all 4 screws at the bottom of the transmitter using a T5 torx screw driver.

Insert the new CR 2032 button cell as shown and close the transmitter again.

Tighten the screws until the sealing is visibly squeezed.

T5 torx screw driver: (Art.No. 137)



## **Helmet Mount**

No tools are required for mounting this lamp. The helmet mount is already mounted to the lighthouse. You can attach this helmet light to almost any kind of helmet with ventilation openings.





First attach the thin velcro with the Lupine logo to one side of the helmetmount.



Then pull the other end of the velcro through the ventilation openings available on your helmet and fix it on the other side of the helmetmount. Tighten the velcro to avoid slipping of the lamphead during use.

Insert the lamphead into the FrontClick mount.  
*(Video support YouTube channel "LupineLights")*

With the provided battery mount 2.0 and the broad velcro the battery can be mounted directly on the helmet.



Insert the lamphead into the FrontClick mount of the headband.  
(Video on our YouTube channel "LupineLights")



The FastClick battery has to be attached to the FastClick mount on the headband with the cable looking downwards.

Matching Batteries:

Art.No. 884 2.0 Ah  
Art.No. 881 2.0 Ah Smartcore  
Art.No. 835 3.5 Ah  
Art.No. 842 3.5 Ah Smartcore



With the provided extension, the battery may be carried in your backpack, a pocket etc.

The FastClick backpart of Piko R can be replaced by a cable guide backpart.



## Mounting Batteries

### **Battery mounting:**

Your battery is supplied with a velcro strap, coated with an anti-slip material to ensure a secure mount. Use the strap which most closely matches your tube size.



### **Battery type:**

The hardcase battery is mounted with a velcro as shown here. So called Smartcore batteries also come with a capacity indicator as explained on the next page.



FastClick batteries don't have a loop for a velcro. However they can be directly put into the clicks system of the FastClick headbelt or 3M clicks system.



## Operation SmartCore battery

### Capacity Indicator

#### Audible:

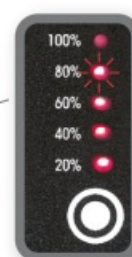
To check the capacity, simply press the touch-pad once. At first an audible signal will sound, which is especially useful while using the battery mounted on a helmet or headband, to give a quick reading in 20% steps.



#### Visible:

The visible indicator uses 5 red LEDs. The LEDs can operate in two different operating states: blinking and continuous. LED meanings: A blinking LED is indicating a 10% step and a continuously glowing LED a 20% step.

**Example:** 3 LEDs steady glow (20 %, 40 %, 60 %)   
 1 LED blinking (80 %) = 70 % remaining capacity



## Taillight

To run the taillight simply press the touch pad two times and the 5 LEDs will operate continuously. To switch off the taillight, simply press the pad again.

## Moving light:

Press the touch pad three times to activate the moving light. To switch it off press the button another time.

## Accessories & more info about FrontClick

### *FrontClick with 3M mount:*

The ultra-flat mounting plate is fixed to your helmet with a special 3M adhesive pad, the lamp simply clicks into place.



Insert the lamp head as shown in the figure and move it in the direction of the arrow until it locks into place.



Press to unlock the lamp.



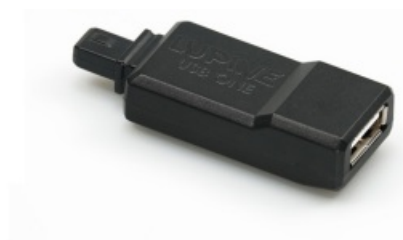
### *GoPro mount:*

By help of our CNC machined mount, you can put the Piko R on the standard mount for GoPro.

## Accessories

### *USB One*

The USB One turns your Lupine battery into a mobile power bank. Nearly every USB device can be recharged within a very short time. (Art. No. 444)



Lupine battery	Smartphone	Tablet	GPS-Navigation
3.5 Ah	3 - 4 x	0.5 x	4 - 6 x
6.9 Ah	6 - 8 x	1 x	8 - 12 x
13.8 Ah	12 - 16 x	2 x	16 - 24 x

## USB Charger

With the USB Charger, you can charge your Lupine batteries easily via a mobile phone power supply, solar panel, or the USB port of your PC. (Art. No. 1444)



## Charging, Productcare and Storage

### Charging Batteries

1. Plug the included Wiesel charger into an outlet
2. Connect the charger to the battery, charging starts automatically the LED turns red
3. The battery can be left plugged into the charger for an indefinite period. Although this will not damage the battery, it is not advisable for Li-Ion batteries since they do not require conservation charging.
4. When the battery is fully charged the LED on Charger turns green



- **Warning!** This charger is to be used to charge rechargeable Li-Ion batteries only. It is NOT suitable for charging NiMH batteries!
- **Do NOT use non-rechargeable batteries. – Risk of explosion!**
- This charger may be opened ONLY by the manufacturer!

### Light:

After use in dirty areas, clean the lamp and the cables externally with warm water and some mild detergent.

### Important!

Because of the delicate seals, we do not recommend to open the lamp.

A leakage in consequence of opening the light is excluded from warranty! Before you try to repair something on your own get in touch with our helpful Service Team.

## Battery:

If you intend not to use the lamp for a longer period of time, fully charge and store it at a cold and dry place. When kept in a cool place, the annual self-discharging rate for such batteries is 15 %.

## Miscellaneous

<i>Problem</i>	<i>Cause</i>	<i>Solution</i>
The light does not come on and the power LEDs do not flash when the battery is plugged into the lamp.	<ul style="list-style-type: none"><li>→ Extremely discharged battery.</li><li>→ Battery not plugged into the light or not plugged in properly.</li></ul>	<ul style="list-style-type: none"><li>→ Charge the battery.</li><li>→ Check all plug contacts.</li></ul>
With the battery plugged in, the power LEDs do not come on, but the PCS LEDs flash.	<ul style="list-style-type: none"><li>→ Faulty LED unit.</li></ul>	<ul style="list-style-type: none"><li>→ LED unit needs replacement.</li><li>→ Get in touch with Lupine.</li></ul>
The runtime is too short.	<ul style="list-style-type: none"><li>→ Discharged battery.</li><li>→ Old battery.</li><li>→ Very low ambient temperature.</li><li>→ Faulty charger.</li><li>→ Unsuitable battery.</li></ul>	<ul style="list-style-type: none"><li>→ Charge battery.</li><li>→ Replace battery.</li><li>→ Keep battery warm.</li><li>→ Replace charger.</li><li>→ Use original Lupine battery.</li></ul>
Even after charging only the 20% LED will light up at the Smartcore battery.	<ul style="list-style-type: none"><li>→ The indicator was reset.</li></ul>	<ul style="list-style-type: none"><li>→ Discharge the battery with your light and fully charge it afterwards.</li></ul>
The lamp does not recognize the transmitter.	<ul style="list-style-type: none"><li>→ Lamphead and transmitter are not linked.</li></ul>	<ul style="list-style-type: none"><li>→ See chapter operation remote control.</li></ul>
The transmitter does not light up while pressing the button and the lamp does not react.	<ul style="list-style-type: none"><li>→ Button cell empty or wrong side up.</li></ul>	<ul style="list-style-type: none"><li>→ See chapter operation remote control.</li></ul>

## Technical data



Light Output:			Runtime:		
			Piko R with 2.0Ah battery:	Piko R with 3.5Ah battery:	Piko R with 6.9Ah battery:
20 W	2100 Lumens		45 min	1 h 15 min	2 h 30 min
10 W	1100 Lumens		1 h 30 min	2 h 30 min	5 h
6 W	750 Lumens		2 h 15 min	4 h	8 h
3 W	450 Lumens		4 h 45 min	8 h	17 h
1.5 W	230 Lumens		9 h	17 h	33 h
0.3 W	55 Lumens		47 h	83 h	167 h

**Weight:** Piko R lamphead: 55 g

Piko R helmetlight with 2.0Ah battery: 160 g

Piko R headlamp with 2.0Ah battery: 185 g

Piko R helmetlight with 3.5Ah battery: 195 g

Piko R headlamp with 3.5Ah battery: 225 g

Piko R helmetlight with 6.9Ah battery: 310 g

Piko R headlamp with 6.9Ah battery: 350 g

#### Charging time:

2.0Ah battery: 1h hours

3.5Ah battery: 1h 50min

6.9Ah battery: 3h 40min

#### Battery capacity/ nominal voltage:

2.0 Ah / 7.2 V Li-Ion

3.5 Ah / 7.2 V Li-Ion

6.9 Ah / 7.2 V Li-Ion

#### LED : CREE

Cree XM-L 3; Cree XQ-E Hi

**Operating temperature:** -25 °C to +70 °C

**Protection class:** IP68

#### Charger Wiesel:

Input voltage: 100 – 240 V~, 50 – 60 Hz

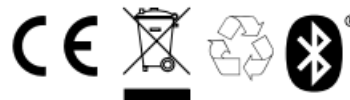
Charging current: up to 1.9 A

Compatible batteries: Li-Ion 7.2 V

#### Contains:

FCC ID: QDS-BRCM1078

IC: 4324A-BRCM1078



Hereby, Lupine lighting systems GmbH declares that the radio equipment type Bluetooth remote control V2 is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: <https://www.lupine.de/documents/ce>



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