

# Eko-Aims Laser manual 2014

## User Manual



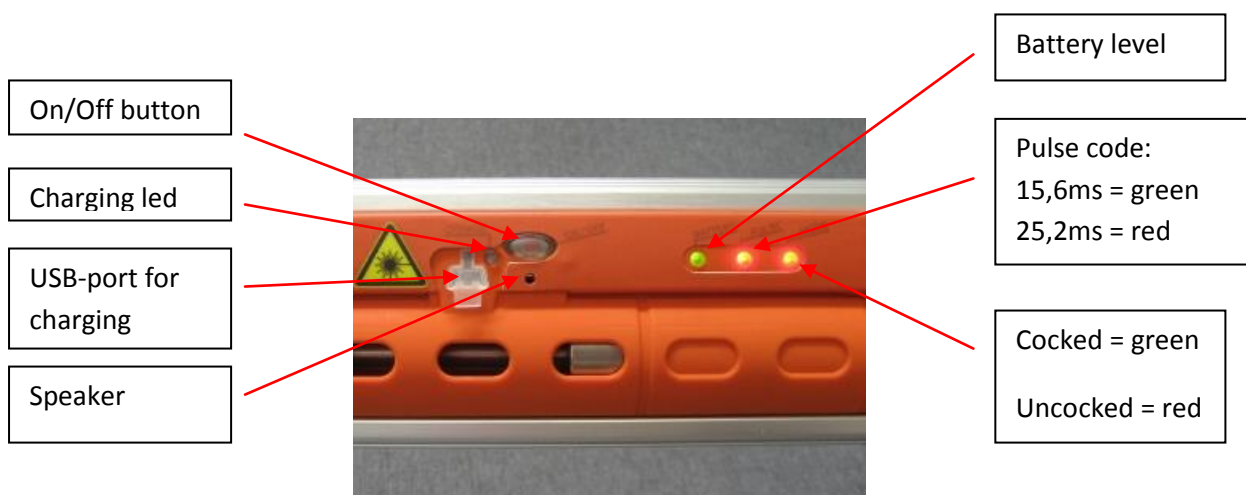
## 1 GENERAL DESCRIPTION OF EKO-AIMS LASER PRODUCTS

Eko-Aims optical sport shooting equipment is suitable both for practising and competitions. The core of the product is its software in the circuit board with an integrated laser module. This equipment is compatible with the electronic targets approved by the International Modern Pentathlon Union UIPM. The laser beam includes the 15,6 ms code required by UIPM for the year 2014. Also the 25,2ms pulse included to ensure maximum compatibility with officially homologated UIPM competition equipment.

To emulate traditional shooting, the gun has a so-called barrel time; a time a bullet would normally take to go through the barrel. This shot delay is 6ms. The shooter should thus take into consideration the same aspects as with a normal gun when pulling the trigger.

These laser products belong to Laser Class 2. Products have been tested by Finnish Institute of Occupational Health among classification method EN 60825-1:2007 (IEC 60825-1:2007). **Please read the safety instructions carefully.**

### Buttons, connectors and indicator lights.



**Please note!** In the earlier production lots the middle indicator led has had different functions. In older products the red light can also define an un-coded laser pulse. Before including two coding options there was also one production lot that had no function in the middle led, and it was not in use at all.

## 2 HOW TO USE THE SYSTEM

### 2.1 Start-up

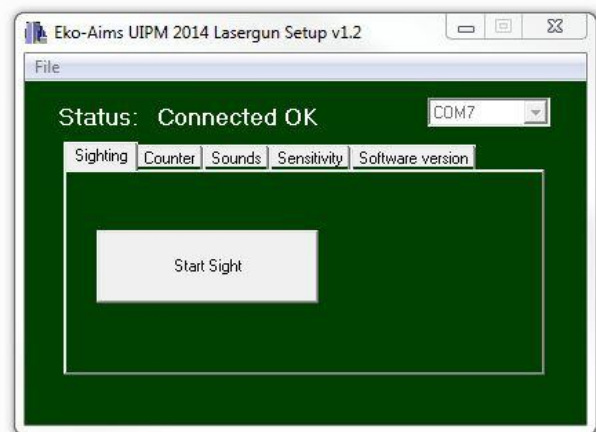
In the newer software version the user can only turn the gun on or off from the red button in the gun. To change the settings, the gun needs to be attached to a computer, and the changes have to be done via “Eko-Aims UIPM2014 Lasergun Setup v1.x”-program.

In the early production models (BRU &ELP-2011 & LP-2014) these changes are done by pressing the red power button longer or shorter times.

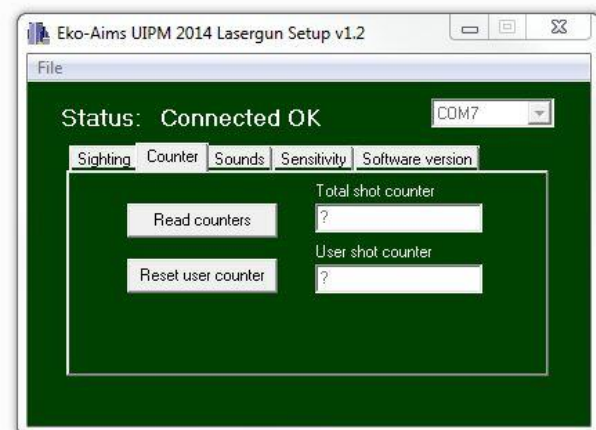
## 2.2 Lasergun Setup v1.x

This program allows the user to make changes to the settings of the gun.

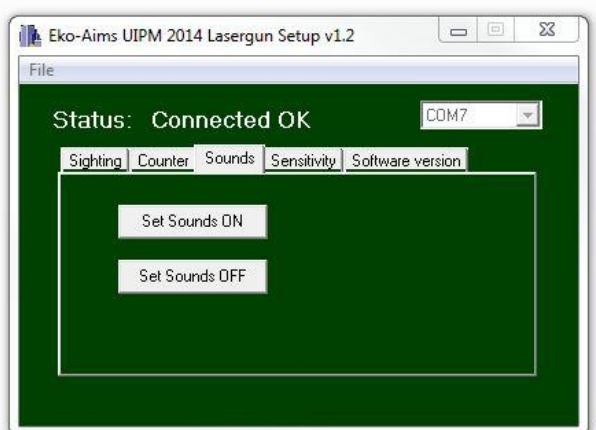
**Sighting** - a pulsed beam to make initial sighting. The gun needs to be connected to a computer during the sighting.



**Counter** – total shot counter and user shot counter, which can be reset. Click “Read counters” to show current shot count.



**Sounds** – sounds On/Off.



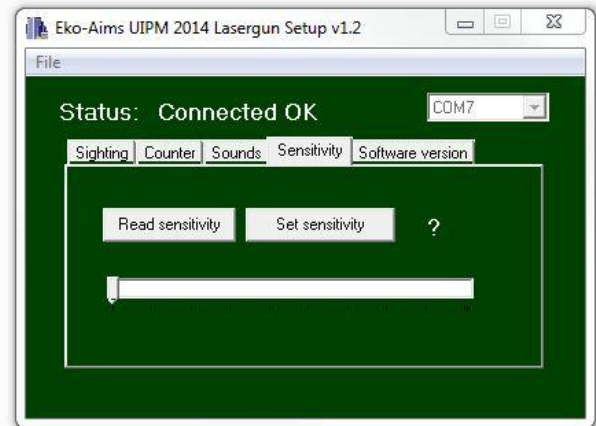
**Sensitivity** – sensitivity adjustment for BRU-units.

**Not needed with PP500 / PP300 / LP 2014-pistol!**

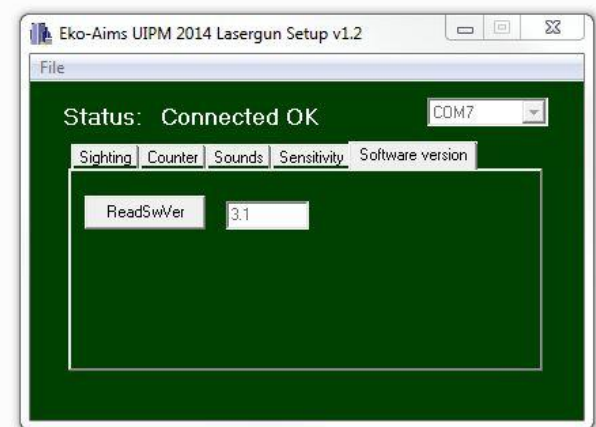
The range of the setting can be from 0-127.

Sensitivity is set at the factory to an average working value.

Remember to press "Set sensitivity"-button to activate changes.



**Software version** – States the current software version of the gun.



## 2.3 Cocking and shooting

PP300 / PP500 / LP-2014 : The gun is cocked by using a cocking rod. It has to be cocked after every shot fired. PLEASE NOTE! The cocking rod needs a little lubrication in the joint. One drop once a month will be ok, see chapter 5 Cleaning and maintenance for more details.

P3-E L has semiautomatic action, so the pistol will reload itself and is ready for new shot after releasing the trigger.

## 2.4 Sights

The laser beam is fixed. The initial zeroing has been done at the factory. The end user can do the initial zeroing with the adjusting program, but is not recommended.

### Adjusting the rear sight:

#### AZ-version (Eko-Aims products delivered before 2014, pictured left)

- Turning the screw on the right side clockwise will move the hits to the left.
- Turning the screw on top of the sight clockwise will move the hits downward.

#### Eko-Aims PS500

- Turning the screw on the right side clockwise will move the sight to the left.
- Turning the screw on the left side clockwise will move the sight downward.



## 2.5 Trigger unit

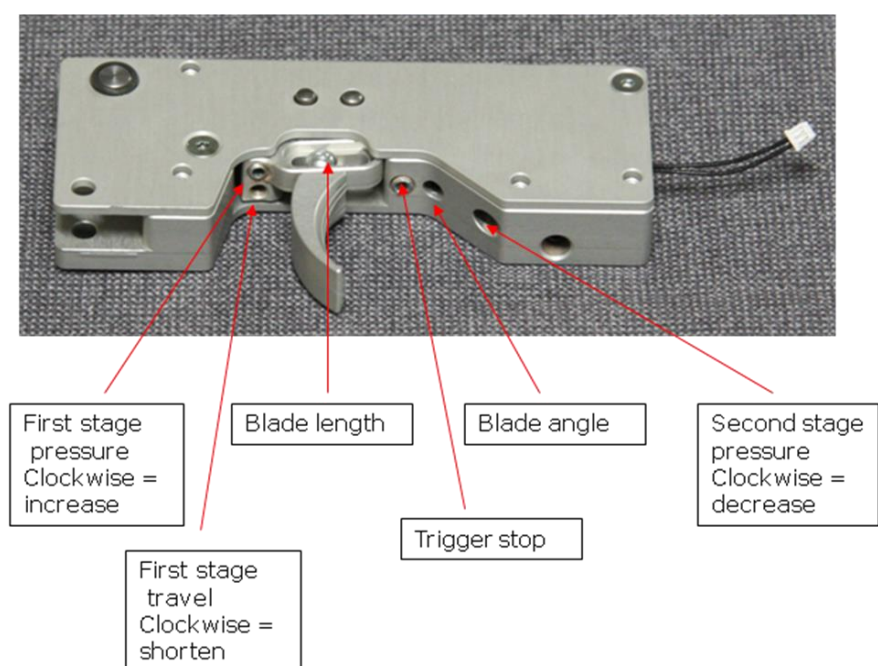
A micro-switch and a magnet form the basis for the trigger mechanism. The functions of the micro switch are adjusted at the factory and should not be manipulated. Any unauthorised opening of the trigger mechanism will remove any guarantee from the manufacturer's side.

### Adjusting the trigger

The trigger adjustments are set at the factory, to ensure that the trigger pulling force meets the ISSF-shooting rules and that everything works smoothly. The user may want to adjust the trigger to fit their personal needs. Adjustments are recommended to be carried out in the following order:

1. Adjust the blade angle. Turning the screw clockwise will turn the blade backwards.
2. Length of double-pull. Turning the screw clockwise will shorten the double-pull (1.5mm Allen screw).
3. Trigger stop. Turning the screw clockwise will shorten the after-travel of trigger after triggering.  
**Caution! Too close adjustment will increase the trigger force and finally prevent the trigger mechanism from travelling over the threshold.**
4. Double-pull pressure, 150 – 350g. Turning the screw clockwise will increase the pressure.
5. Pull pressure, ~500g. Turning the screw clockwise will decrease the pressure.





## 2.6 Changing the grip - PP500 / LP-2014 (also ELP-2011)

Steyr LP10-grips will fit PP500 or LP 2014-pistol. Follow these instructions in changing the grip.

1. Detach the original Eko-Aims grip with 4mm Allen key. Remove the grip.



2. Attach the wooden grip to its place, and tighten it with Allen key. **Please note!** The wooden grip might need some carving to fit the cocking rod, and possibly some material under the metal plate of the grip attachment point.



The original composite grips are adjustable. Loosen the screws to change the height of the support plate.



### 3 CHARGING & CHANGING THE BATTERY

The laser unit is charged via a USB-cable. It can be connected to a USB-port of a computer, or to mains current with USB-charging device. A green led indicates that the battery is being charged, it turns off when the battery is full. Re-charging an empty battery takes about three hours. When the battery runs very low, the system gives a warning signal.

#### Changing the battery (PP300, PP500 and LP-2014 only)

The expected battery life is at least 24 months in regular use.

**PP300/PP500:** Open the hex-screw and detach the front plate.



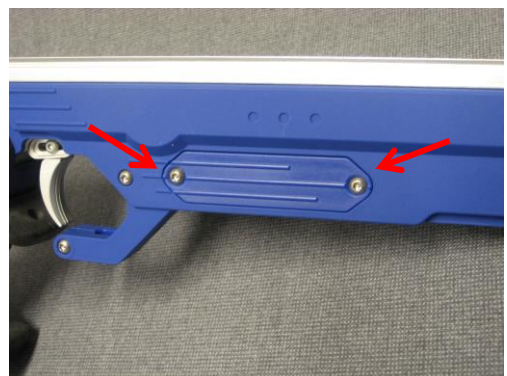
Slide the aluminium rail under the pistol forward. Battery hatch is in front of the trigger.



Take the battery carefully out, and disconnect the JST-connector. Connect new battery, and put it in its place. Close the hatch, attach the front plate and tighten the hex-screw.



**LP-2014:** detach the battery-hatch on the right side of the pistol. Open the torx-screws and disconnect the battery's JST-connector. Take the battery out. Connect new battery, and put it in its place. Close the hatch.





## 4 SAFETY INSTRUCTIONS



LASER RADIATION  
DO NOT LOOK DIRECTLY AT THE BEAM  
CLASS 2 LASER DEVICE

This is a Class 2 -sport shooting device. The laser follows the standard EN 60825 – 1:2007.

- type E650D1-3-1235
- nominal wave length 650 nm
- nominal output 2,5mW
- never direct the laser beam at another person or an animal
- do not look at the beam either directly or through any optical devices
- do not direct the beam at air planes, cars, windows or other similar objects
- use the device only in an area specified for this purpose
- keep away from children
- do not hand over the device to anyone who does not understand the dangers of using the laser beam
- it is forbidden to open or modify the device, excluding the changing of battery or the grip
- operating temperature -10 o + 50 o C

**WARNING! Failure to follow these instructions may expose the user to dangerous laser radiation.**

**Read the safety instructions carefully before using the device.**

Always follow firearm regulations when handling an optical gun. Carry it in a proper case or bag. A person not familiar with this kind of equipment may mistake it for a regular weapon, not an optical and safe one.

The system is meant for outdoor use as well, and is protected against normal humidity and rain. Nevertheless, heavy rain may damage the electronic parts. Always cover the gun from rain. Keep it in the carrying case when not in use.

## 5 CLEANING AND MAINTENANCE

In ordinary use and normal conditions the guns are maintenance-free and thus do not require any daily maintenance, except a quick check. The cocking lever joint needs to be oiled once a month, but do not use the oil excessively, one drop is enough. If there is too much oil, it might cause errors in the electronics.

In a case of malfunction, please contact the manufacturer via email:

[support@eko-aims.com](mailto:support@eko-aims.com).

