

# LED Headlight

# Instruction Manual

Wuzhou Aokace Technology Co., Ltd.

**Product Information:**

Product Name: Headlight  
Model Number: AGS102L AGS102L-M  
Date of manufacturing: See the product labels

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**Manufacturer:**

Wuzhou Aokace Technology Co.,Ltd.  
Registered address: 2/F and 3/F, No.A-5 Factory Building, Donghua District,  
Wuzhou Industrial Park, Wuzhou, Guangxi, China  
Manufacturer address : 2/F and 3/F, No.A-5 Factory Building, Donghua  
District, Wuzhou Industrial Park, Wuzhou, Guangxi, China  
E-mail: sales@aokace.com  
Tel: 0774-3811644  
Fax: 0774-3846508  
Post code: 543000  
Website: www.aokace.com.cn

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**After-sale Service:**

Wuzhou Aokace Technology Co.,Ltd.  
Address : 2/F and 3/F, No.A-5 Factory Building, Donghua District, Wuzhou  
Industrial Park, Wuzhou, Guangxi, China  
E-mail: sales@aokace.com  
Tel: 0774-3811644  
Fax: 0774-3846508  
Post code: 543000  
Website: www.aokace.com.cn














Note: Please read the instruction carefully about the security warning and the precautions before use.


### Safety Warning


In order to use it safely and correctly, and to ensure that the instruction is in good condition, please read this manual carefully before use.


In order to improve product quality and performance, there is a possibility to replace some parts. In this case, there may be inconsistencies with this manual, which should be replaced based on the standard equipment provided by the manufacturer at the time.

#### Meaning of abbreviation/symbols/signs:

	Serial Number		Electronics		This Way Up
	Batch Code		Read before Use		Fragile,Handle with Care
	Manufacturing Date		Keep dry		Battery inside
	Danger/Warning		Non-Ionizing radiation		CE Tag
	Keep away from heat				

 Do not throw the battery, please put the scrapped battery in the designated recycling place.

 Do not change this device without the manufacturer's authorization.

 Please charge the device with a qualified power adapter.

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## I. Overview

Product name	Headlight	-
Model	AGS102L	-
Model	AGS102L-M	With loupe

The main structure of the headlight is composed of an LED light source, a control circuit and a power supply part (lithium battery). It can be directly illuminated for clinical deep lighting inspection. LED light is used as the light source, brightness adjustment and battery capacity are displayed on the battery box in real time. It is featured with easy brightness adjustment, low temperature and long working time.

## II. Classification

Electrical safety classification	Internal power supply equipment
Operation mode	Continuous
Device	Non-AP or APG type equipment

## III. Main parameters

Number	Main technical index	Parameter
1	Charging input power	$\leq 6\text{VA}$
2	Charging input voltage	DC 5V
3	Light source	Imported LED lamp

## IV. Working Conditions

Operating environment	Temperature	+5℃~+40℃
	Relative humidity	30%~80%
	Atmospheric pressure	700hPa~1060hPa

## V. Technical Indicators

1	Spot diameter (420mm working distance)	Φ 12-80mm
2	Display Index	≥85
3	Lighting color temperature	5700K±500k
4	Illumination(420mm working distance)	16000LUX
5	Headband range	480mm-680mm

## VI. Structure and Principle

### 6.1 Product Structure

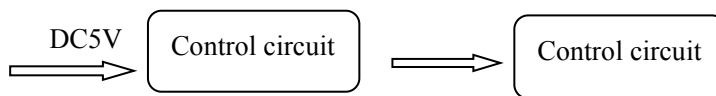
The main structure of the headlight is composed of an LED light source, control circuit and power supply part (lithium battery).

### 6.2 Working principle

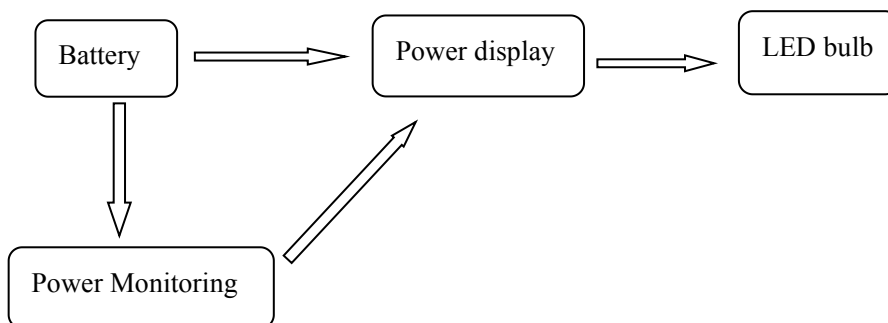
When charging the battery, the power adapter provides DC5V to the charging circuit, and the control circuit charges the battery and displays the charging status in real time. When the internal battery is powered, the battery provides DC3.0-4.2V to the control circuit, which supplies power to the LED bulb and collects the battery voltage for real-time power monitoring.

The electrical block diagram shown below:

### Battery charging



### Battery is powered



## VII. Scopes of Application and Contraindications

**Item:** AGS102L、AGS102L-M Headlight

The scope of application: headlights are used in a wide range of applications to provide illumination for clinical examinations. It is suitable for ENT, general surgery, neurosurgery, cardiovascular, orthopedics, dermatology, stomatology, gynecology, cardiothoracic surgery, etc.

**Contraindications:** Patients with light allergy

**Precautions:** Do not exposure to the human eye directly during use

## VIII . Caution and Precaution

- Do not turn the power on and off frequently, so as not to effect the service life of the headlights.
- Please read the safety warnings and precautions provided in this manual carefully to ensure safe and effective use of the headlight. If it is the first time to use it or not use it for a long tome, please charge for more than 5 hours before use.
- Do not aim the lamp head at the patients' eyes when turning on the headlight to avoid hurting the eyes,
- When wearing the headband, please tight it gentleman and do not violently tighten the knob to avoid damaging the gear.
- Do not look directly at the glare when wearing loupes to avoid harm to the eyes.
- When cleaning the lens, do not wipe the mirror with a hard object or touch the mirror directly with your hand.
- Avoid immersing in alcohol directly when cleaning the headlight.
- The headlight should be placed in a dry place, try not to use it in wet place.
- Do not place the light on an unstable workbench. If it is not used for a long time, please turn off the power.
- Avoid operating in the same part of the body for a long time, so as not to cause burns to the patient.
- This headlight is a medical device electronic product. If it is disposed of after being scrapped, it may cause electronic pollution to the environment. Therefore,



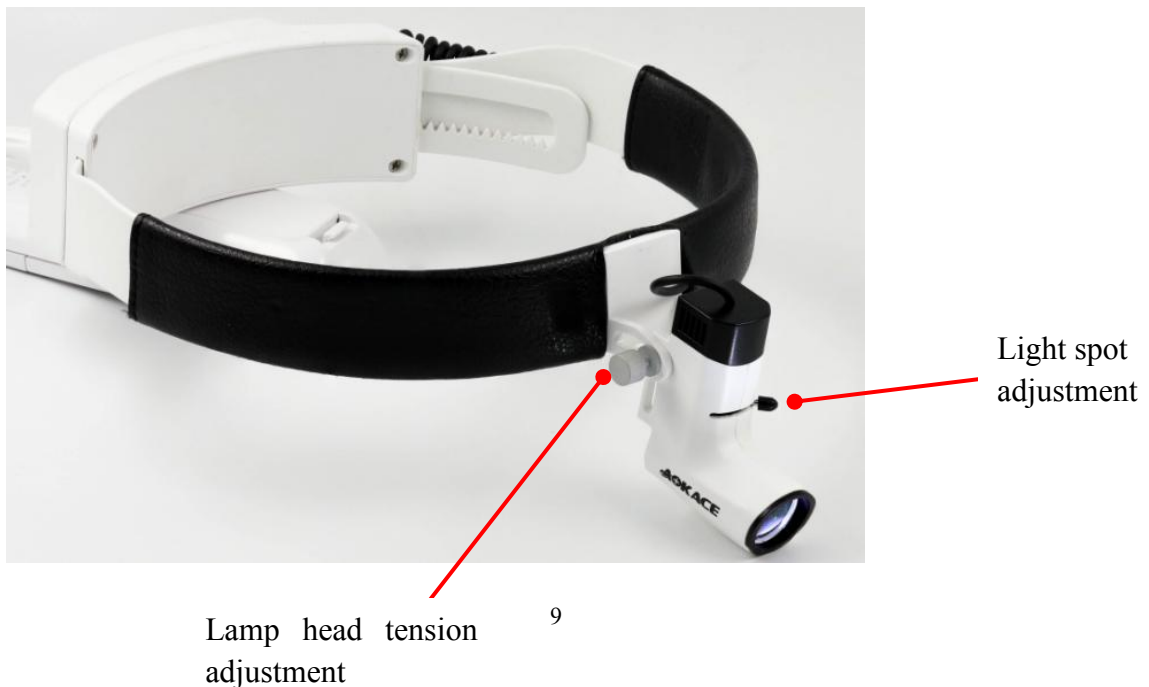
after the period of use, its disposal method should be strictly implemented in accordance with the “Administrative Measures on Prevention and Control of Environmental Pollution by E-waste” issued by the State Environmental Protection Administration. The user should contact the qualified unit to disassemble the scrapped product or contact the manufacturer for the transfer. Users are not allowed to disassemble and dispose of scrapped products.

## IX. Electromagnetic Compatibility

The headlight has been tested in accordance with YY0505-2012/EN 60601-1-2, which is not guaranteed to be immune to electromagnetic interference. Headlight should not be used in high electromagnetic environments.

## X. Installation and Booting

### AGS102L:





Headband adjustment

Brightness adjustment and switch

### AGS102L-M:



Light spot adjustment

Brightness adjustment and switch

Loupe tension adjustment

Interpupillary adjustment

## Detail Operation:



The battery box can be taken out by pushing it to the position of the figure, and the assembly position is as shown in the figure.



Plug the charging cable into the POWER port. It is charging when the indicator light is flashing. When all 4 indicator lights are on and not flashing, the battery is fully charged.

### 1. Turn on the headlight

After wearing the headlight, turn the switch knob on, and adjust the brightness and spot size according to your requirements.

### 2. Turn off the headlight

Turn the switch knob off after use, and put it back to the carrying case.

### 3. Charging

Remove the battery by following the indication on the battery box, and plug the charging cable into the POWER port. It is charging when the indicator light is flashing. When all 4 indicator lights are on and not flashing, the battery is fully charged. Please use the 5V1A/5V2A and the power adapter that meets the relevant local standards to charge the headlight.

#### 4. Wearing

Take out the headlight from the carrying case, adjust the headband range to the appropriate position according to the size of your head circumference, put the headlight on the head, and tighten the headband by adjusting the headband adjustment.

### **XI . Maintenance and Cleaning**

- If the device is used repeatedly, it is recommended to replace the battery box after 18 months.
- Do not overcharge or discharge the battery of the device, or else the lifetime of the battery will be reduced seriously.
- When charging, please use the power adapter that meets the standards specified in this product manual to charge, otherwise it may cause damage to the headlight.
- When there is dust on the mirror surface, please wipe it gently with a clean cloth dipped with alcohol.
- When the surface of the device is smudged, wipe the surface with alcohol and dry it with a clean cloth.
- After using the instrument, please put it in the instrument box and store it in the airy and dry place.

### **XII. Shipping and Store**

#### Shipping

Avoid sunlight and rain during transportation.

#### Store

The headlight should be stored in where the ambient temperature is  $-20\text{ }^{\circ}\text{C} \sim 55\text{ }^{\circ}\text{C}$  and where the relative humidity is within the range of 10% to 80% and where is cool and dry with a well ventilated clean environment without corrosive gases.

### **XIII. Fault and Repair**

When there are some problems with your headlight, it will work usually by troubleshooting follow the table below if the headlight fails. If problems remain the same, please contact our company or the authorized after-sales service.

Problems	Approach
turn on the switch, but the light not on	1. Check if the battery box is connected 2. Check if the battery case is installed well
turn on the switch, the indicate light of the battery box is not on	Plug the charging cord to charge the battery
turn on the switch, the indicate light of the battery box is not on	Return the device to the factory, replacing the accessory
Brightness can not be adjusted when turn on the headlight	Return the device to the factory, replacing the accessory

### **XIV. Manufacture Date and Period of Use**

The date of manufacture can be showed on the back label of the battery of each headlight. The term of use is 5 years from the date of use.

## XV. Packing List

There should be the following accessories in box, please confirm it after you receive the product:

No	Items	Specification	Quantity	Note
1	Headlight		1	
2	Charger		1	
3	Cleaning cloth		1	
4	Instruction manual		1	
5	Warranty card		1	
6	Certificate of quality		1	
7	Screwdriver		1	For AGS102L-M only
8	Loupe		1	For AGS102L-M only

If you find any accessory is missing, please contact your dealer or us immediately.

## XVI. After-Sales Service

The warranty period is 1 year from the date of purchase. During the warranty period, in the case of the use and maintenance the product correctly, if there is any breakdown which is caused by the product's quality, we will offer free fix or replacement.

The following conditions does not belong to the scopes of the warranty: the breakdown caused by the error installation and wrong operation, and repaired or modified by the non-our-company authorized maintainer.

- As the accessories and packaging sold together with equipment is designed to

protect the equipment from damage, please keep the packaging materials for maintenance return shipping.

- malfunctions due to abnormal use or equipment modified or repaired without the authorization of the company
- Because the equipment, accessories and equipment sold by the company are designed to protect them from damage, please keep the packaging materials for shipment and return for repair.
- For a better protect of your interests and provides a better service for you, we would like you to complete the receipt in the warranty card and send it to our company by fax, email, mail etc. The one who is in record in our company will enjoy the interests and the rights of our company’s daily maintenance and replacement of vulnerable parts.

**XVII. Manufacturer’ s Contact Info. and Related Document Number**

<b>【Manufacturer Name】</b>	Wuzhou Aokace Technology Co.,Ltd
<b>【Register address】</b>	2/F and 3/F, No.A-5 Factory Building, Donghua District, Wuzhou Industrial Park, Wuzhou, Guangxi, China
<b>【Manufacturer address】</b>	2/F and 3/F, No.A-5 Factory Building, Donghua District, Wuzhou Industrial Park, Wuzhou, Guangxi, China
<b>【Contact】</b>	0774 - 3811644

<b>【After-sales Service】</b>	Wuzhou Aokace Technology Co.,Ltd.
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### **XVIII. Release Record**

Date	Version	Description of Modification	Remarks
15/02/2019	1.0	First Issue	