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[Attention]

Unpacking

Upon receiving the product package, please check for every item, if there is a shortage or merchandise damaged during shipping, please contact your local distributor ASAP.

Before using

Please ensure that you read and understand the safety precautions. Please refer to product introduction to prevent product damaged due to mishandling.

Test-Shooting

Before taking pictures of any important subject, please do the test-shooting to make sure the X-Loupe™ is perfectly normal without any damage caused by shipping. In case of any problem, please contact your local distributor immediately

Precautions

WARNINGS

Please ensure that you read and understand the safety precautions before using.

To avoid the fire, electric shocks, or result in a body severe injury, please obey the following instructions.

1. Keep X-loupe™ and its accessories away from children and infants. Contact a doctor if any dangerous situation occurs.
2. Do not aim this product at the Sun or blazed light sources.
Doing so may cause malfunction or damage the image sensor of camera (CCD.)
3. Keep X-Loupe™ away from water or other liquids. The usage of damped or drowned X-Loupe™ could result in fire or electric shock. Immediately turn off the power of X-Loupe™ and remove the battery.
4. Keep X-Loupe™ away from the heat source, and avoid its exposure to the direct flame or heat.
5. Do NOT disassemble, alter, or apply heat to the battery. Avoid any severe impacts which could damage the protective casing of the battery.
6. In case of any contact to the leaked substances from the battery, immediately flush the contacted skin, face, or cloth with large amount of water and ask for medical assistance.
7. To avoid the fire, explosion, or result in a body injury, please keep battery terminals away from metal or magnetic materials.
8. Before you discard a battery, please use the insulation tape to cover battery terminals to avoid direct contact with other object. Contact with metal or magnetic materials in waste container may result in fire, explosions, or body injury. Please recycle when possible.

CAUTION

If potential hazards are not eliminated, it may result in body injury, property/ financial loss, and the malfunction of the product. The following instructions are also applied to the warning of unsafe operation.

1. Avoid strong impacts or shocks of the equipment. Be careful NOT bump or push strongly on the lens.
2. Do NOT use, place or store the equipment in a place with strong sunlight or high temperature.

Precautions

3. Avoid using the equipment under the airtight or airless condition; otherwise, it may result in short circuit, overheating, explosion, fire, burns, or other accidents. High temperature could deform the sharp of casing.
4. If not using the equipment for a long period of time, please remove the battery from the equipment and the battery charger, and store them in a safe place. Improper usage of the battery could make the battery exhausted in a short time.
5. Use the included charger to charge the battery. Do not charge the battery with other branded chargers; otherwise, product breakdown, overheating, fire, electric shock, or body injuries might occur.
6. Before you move the equipment rapidly from a cold place to a hot place, please place the equipment inside a sealed plastic bag to allow its gradual adaptation with the ambient temperature. As well as avoid the water condensation which cause the mechanical problems. Moving the equipment rapidly from cold to hot temperatures may cause condensation (water droplet) to form in the inside or on the surface of the equipment.

After Reading, Keep the User Guide Handy for Future Reference

★X-Loupe™ is protected by the following patents:

China patent NO.	Japan patent NO.	Taiwan patent NO.	USA patent NO.	Germany patent NO.
1004656	3138313	M315340	US7,327,526B1	Nr. 20 2007 016 015.1
1006570	3139250	M315354		Nr. 20 2007 014 240.4
1085489	3120470	M313792		Nr. 20 2006 001 999.5
	3142494	M292708		
		M324200		
		M332873		

- ★In the interest of continually improving products, Lumos Tech. reserves the right to update or modify information contained in this manual without prior notice.
- ★Product image of this manual is for reference only and actual product appearance may vary.

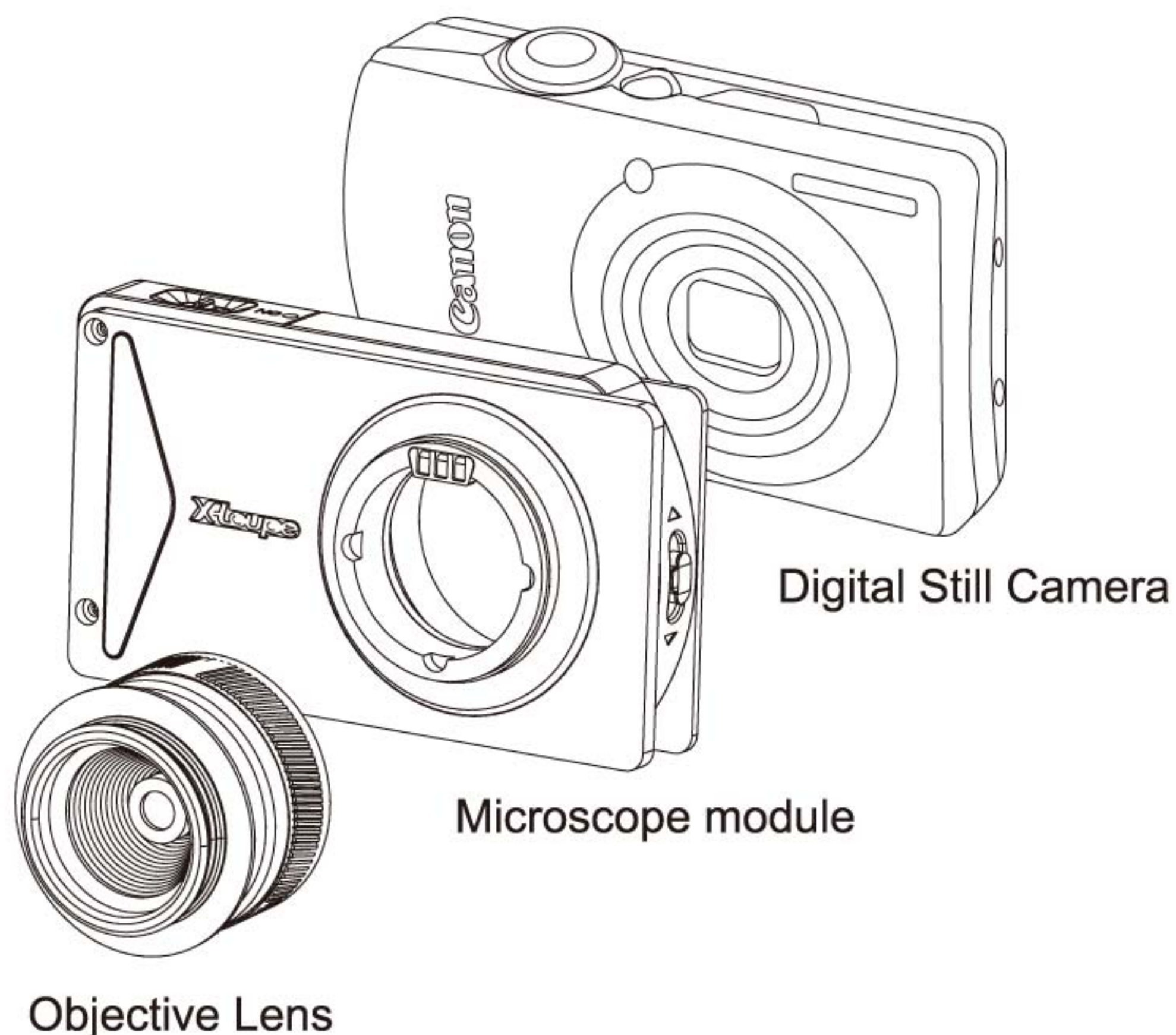
About “X-Loupe™ Portable Microscope Camera”

X-Loupe™, a “Portable Microscope Camera,” is composed of a digital camera and a microscope module. Three objective lenses with different magnifications are supplied to support its utilization under various circumstances. The multiple functions, such as built-in LED lighting and AF, enhance X-Loupe™ to break the limitation of microscopes that used to confine to the labs. Providing new methods to examine micro subjects, X-Loupe™ make the micro inspections become easier.

For more information and downloading this user guide, please visit our website at <http://www.x-loupe.com>

Please read the copying declaration prior to the usage of any part of the content in the booklet.

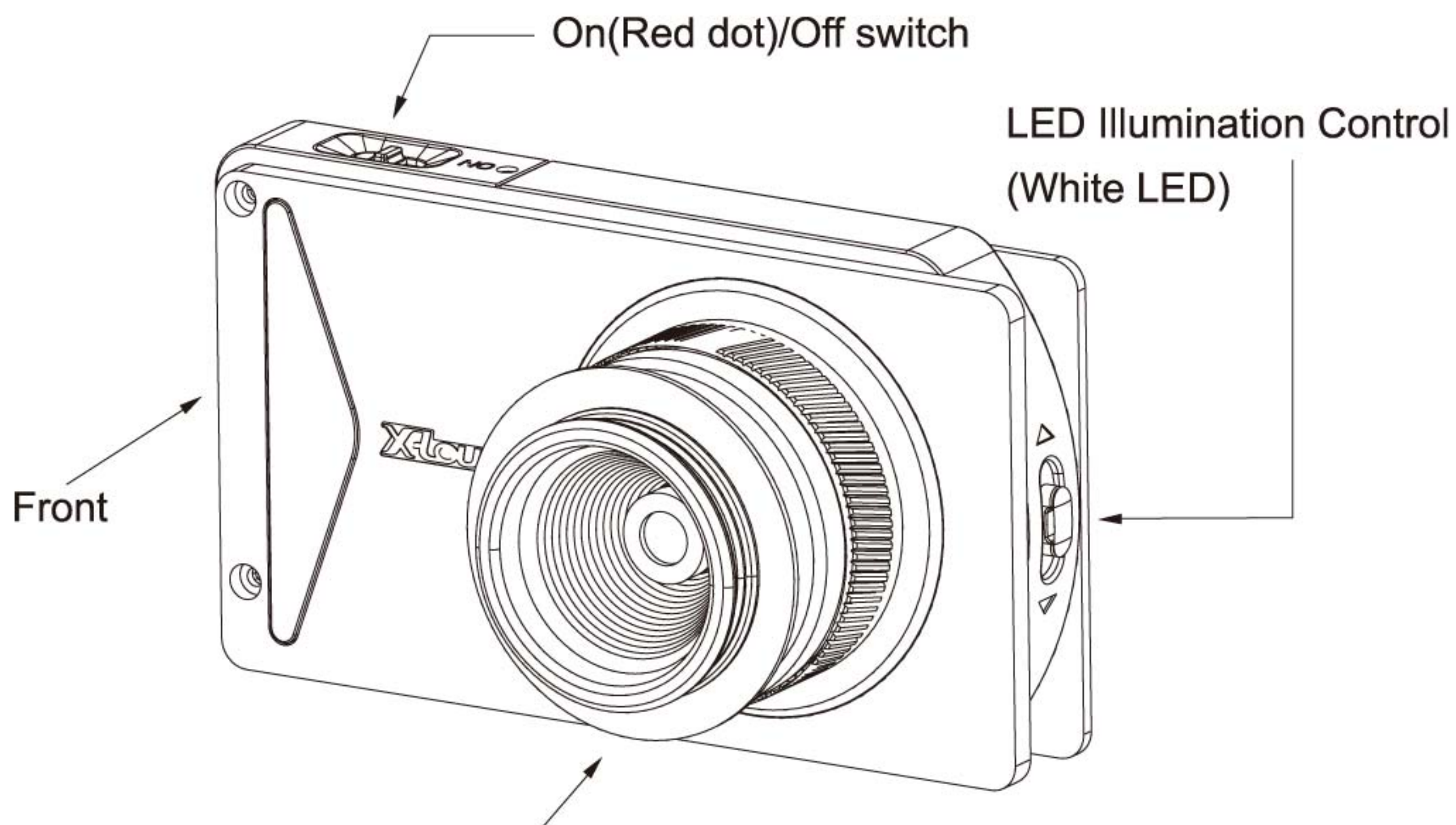
Wish you have a wonderful experience on using X-Loupe™.



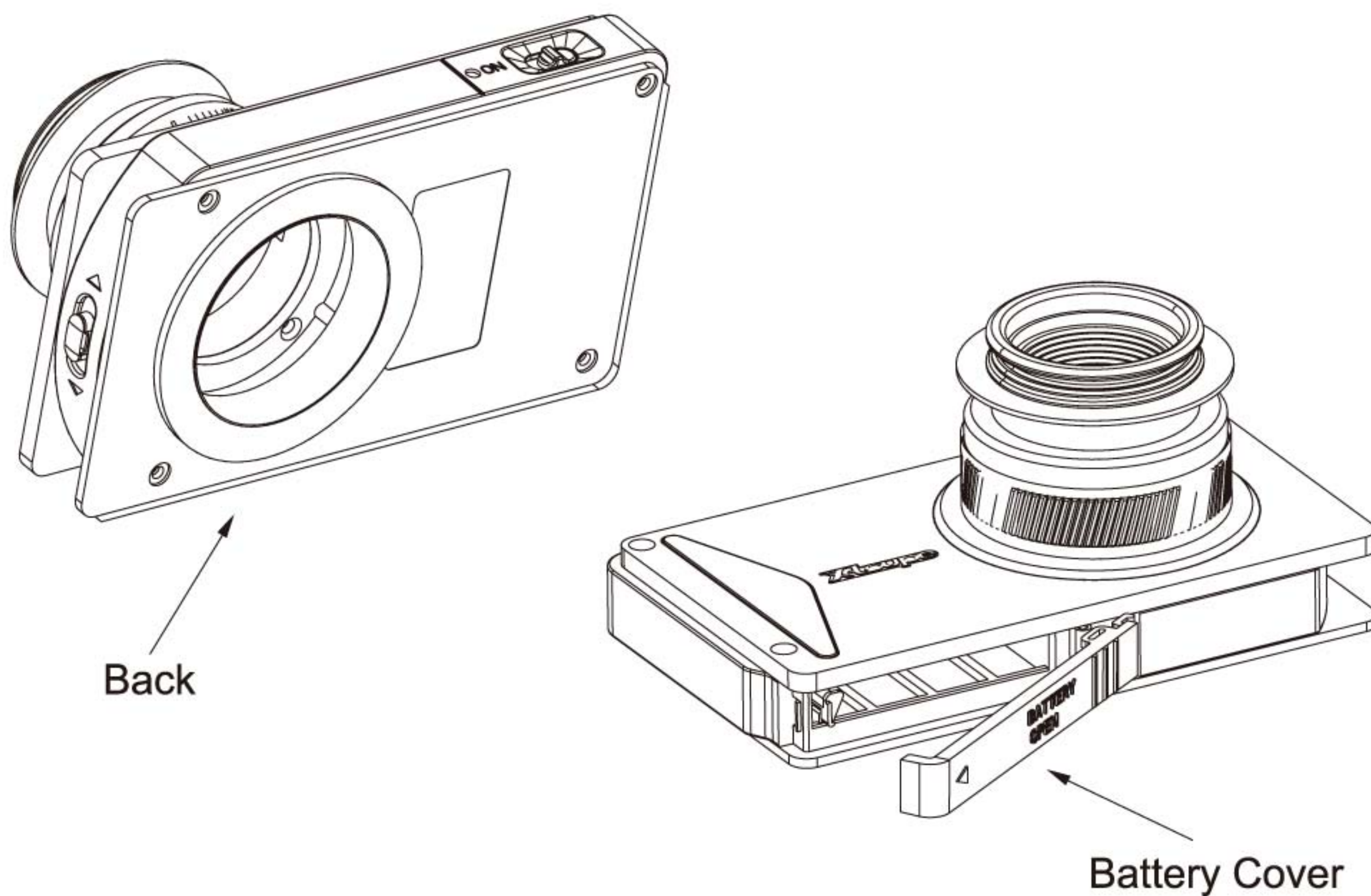
《 Structure profile of X-Loupe™ 》

Components

Module (Lens included)

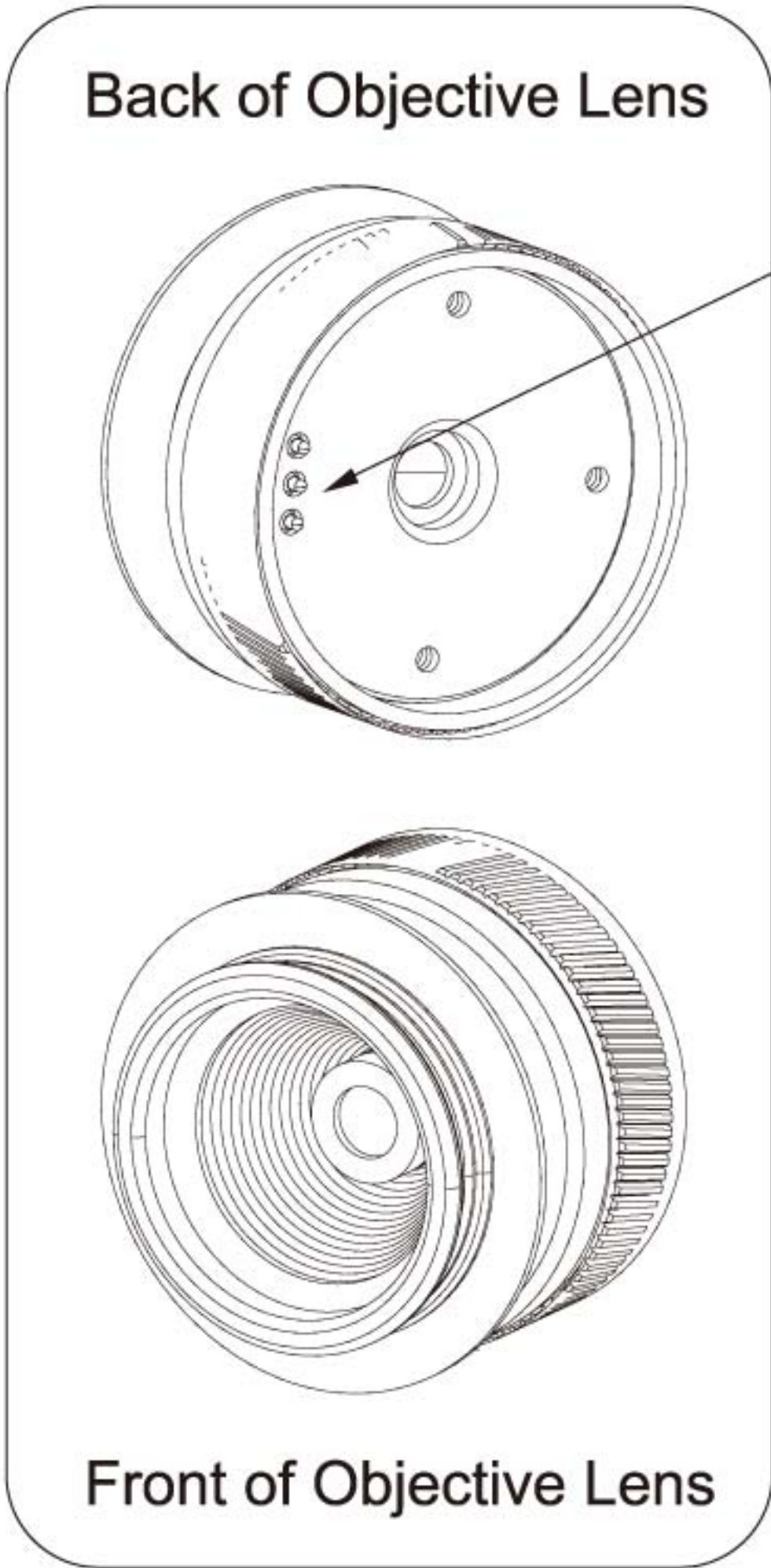
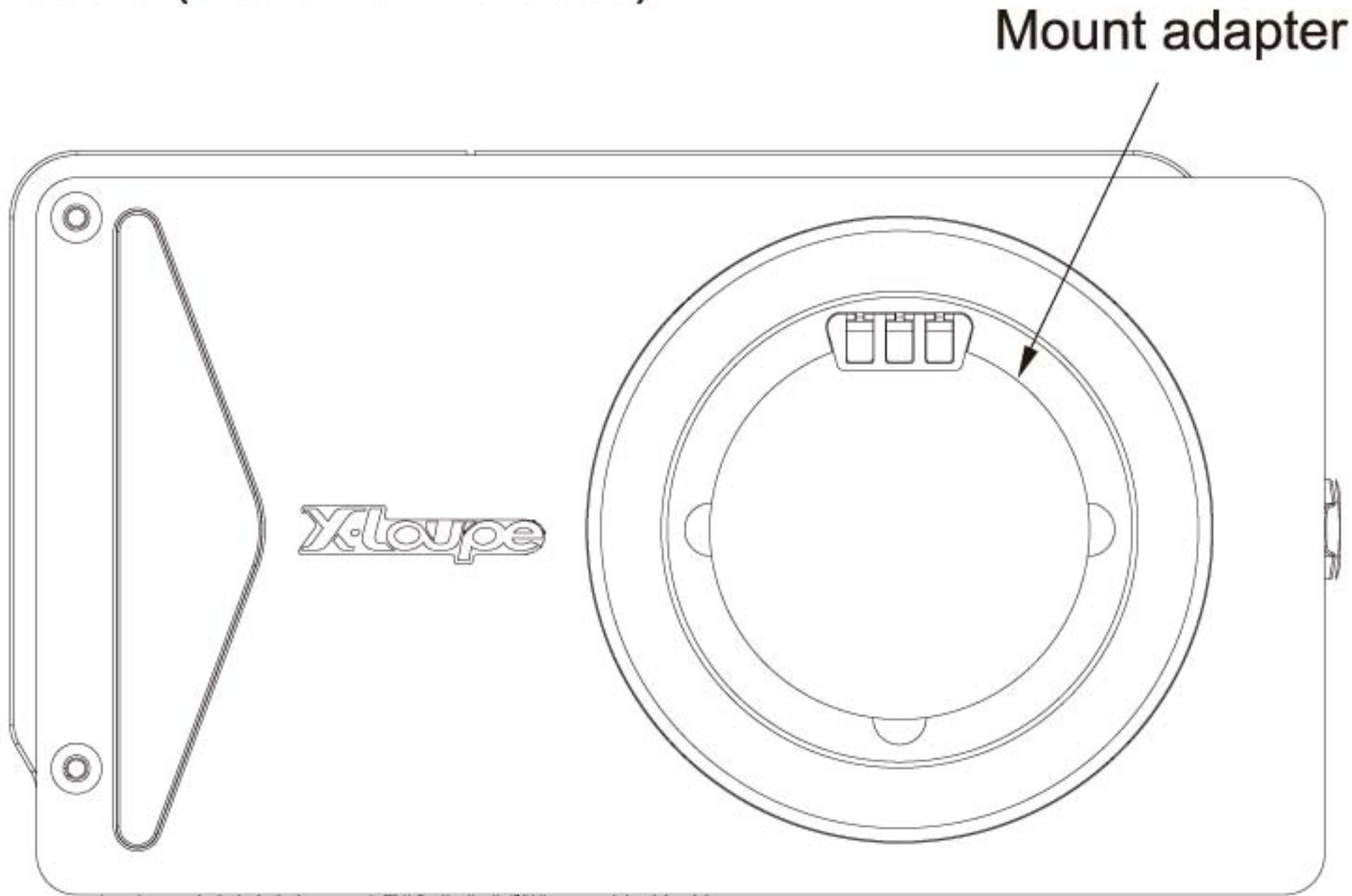


Interchangeable magnifying lens indicated by color:
60x - Red; 100x - Yellow; 150x - Blue



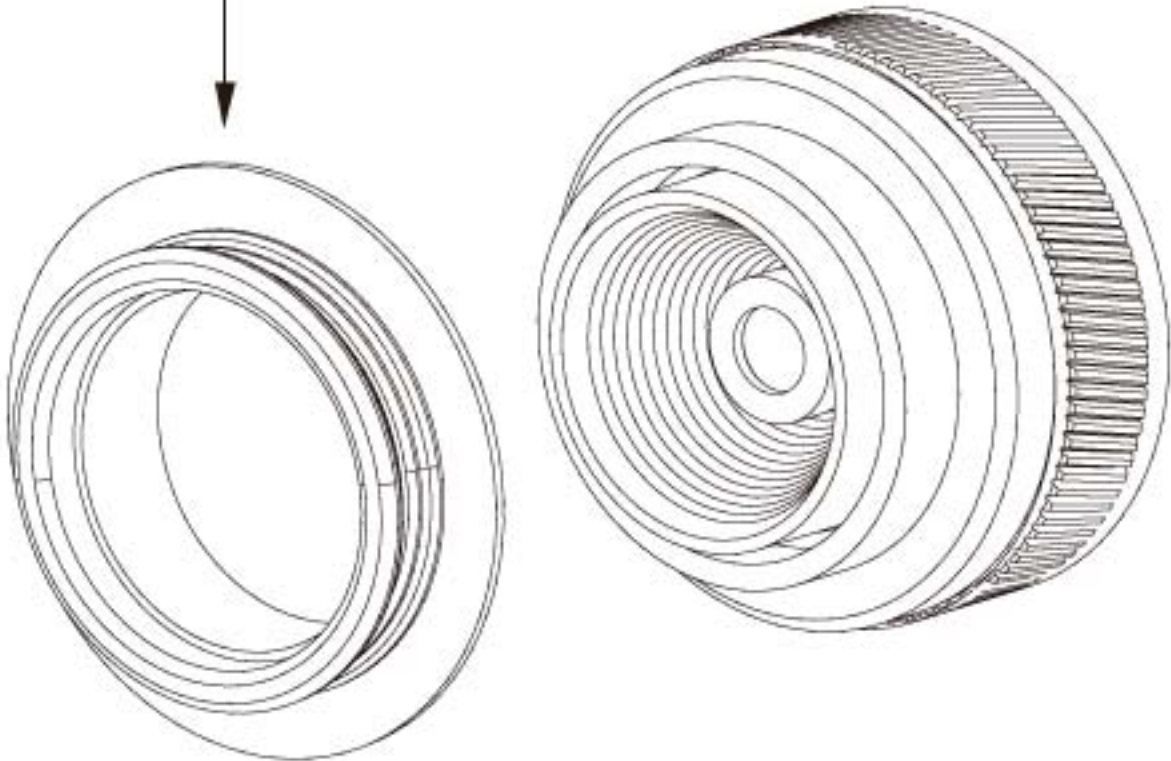
Components

Front of Module (Lens not included)



Contact pins

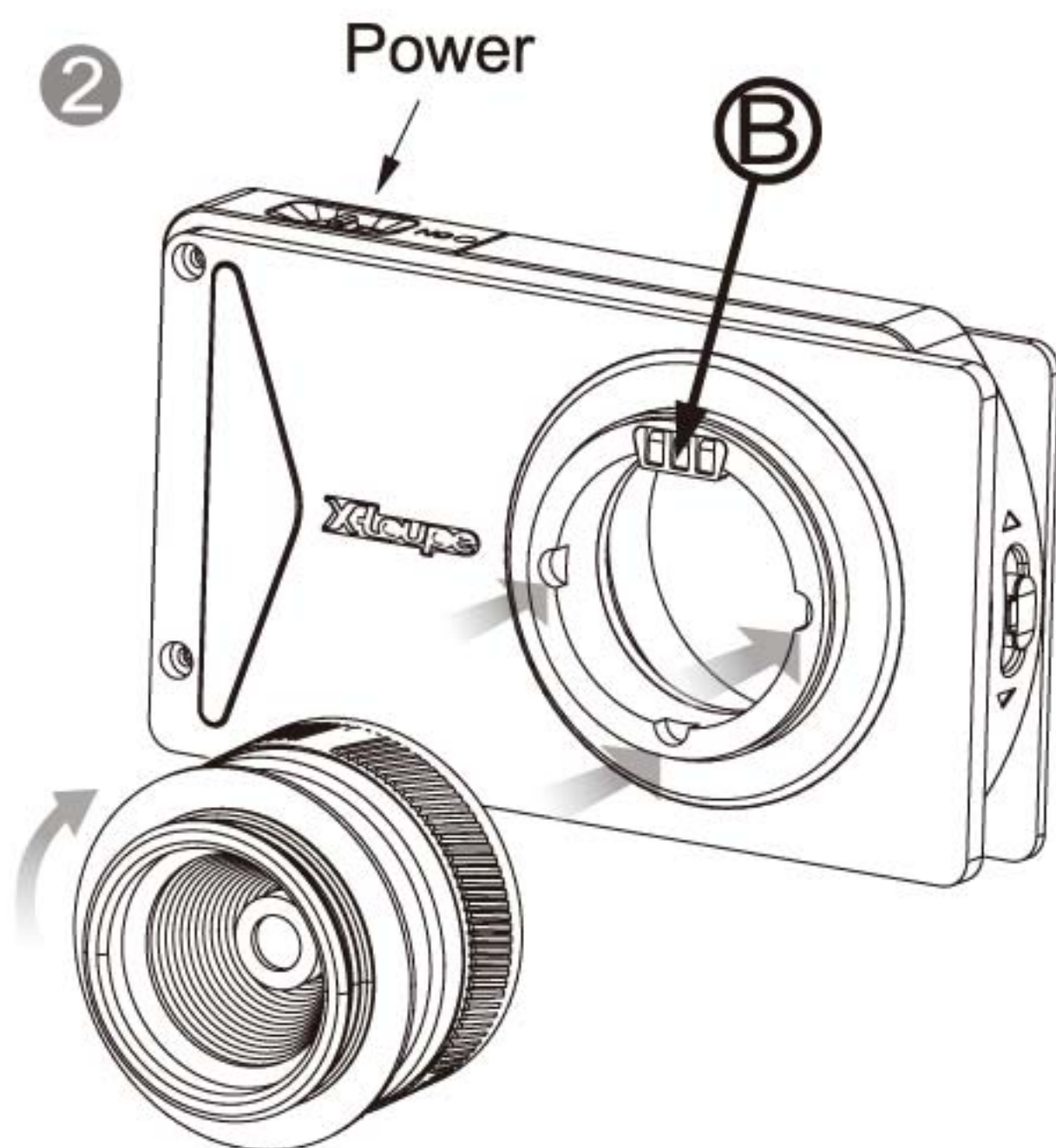
Demountable lens
(preceding hood)



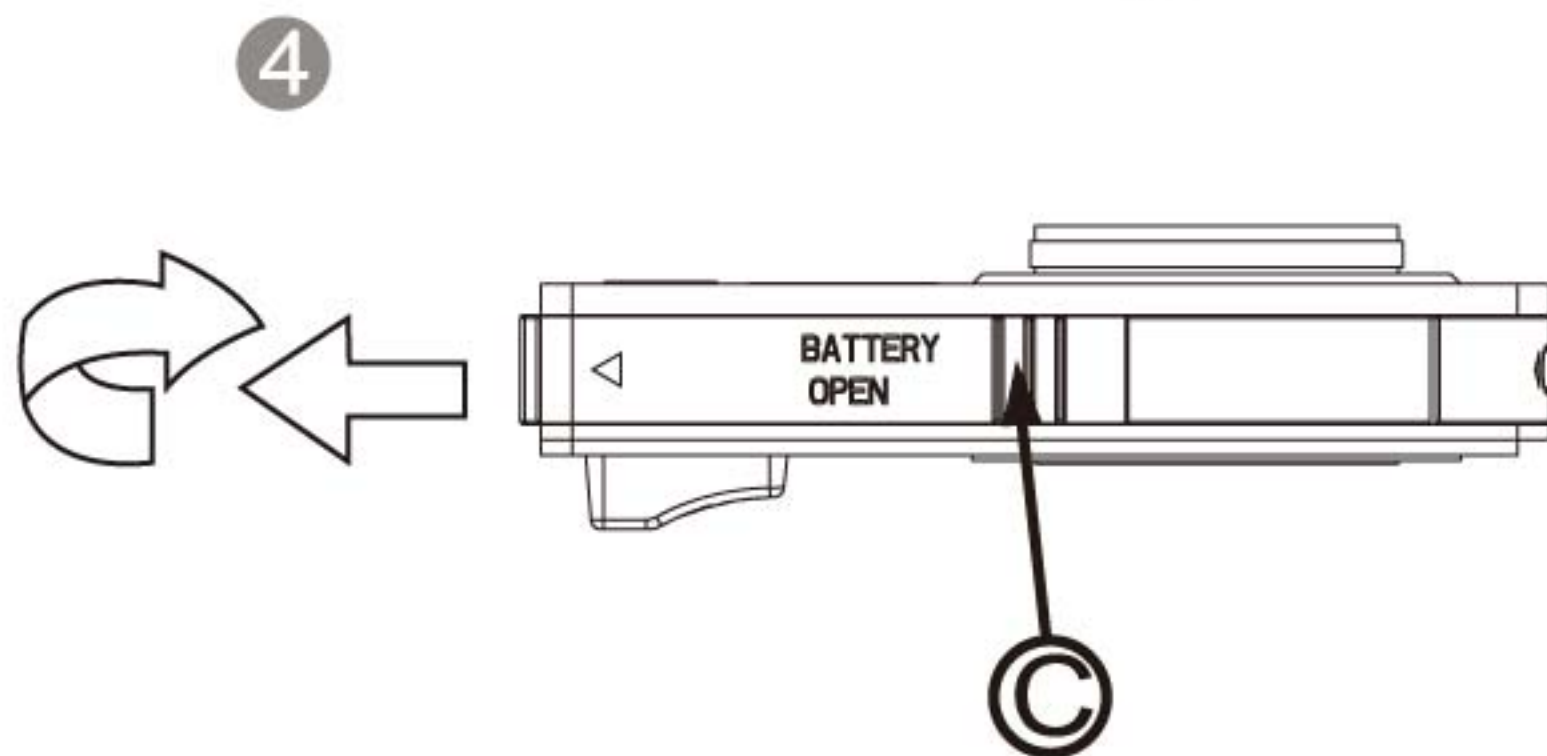
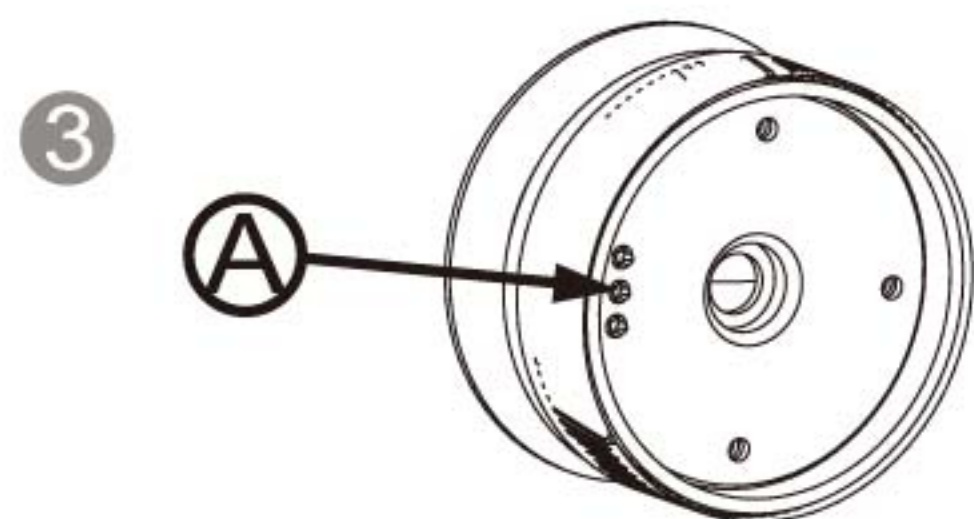
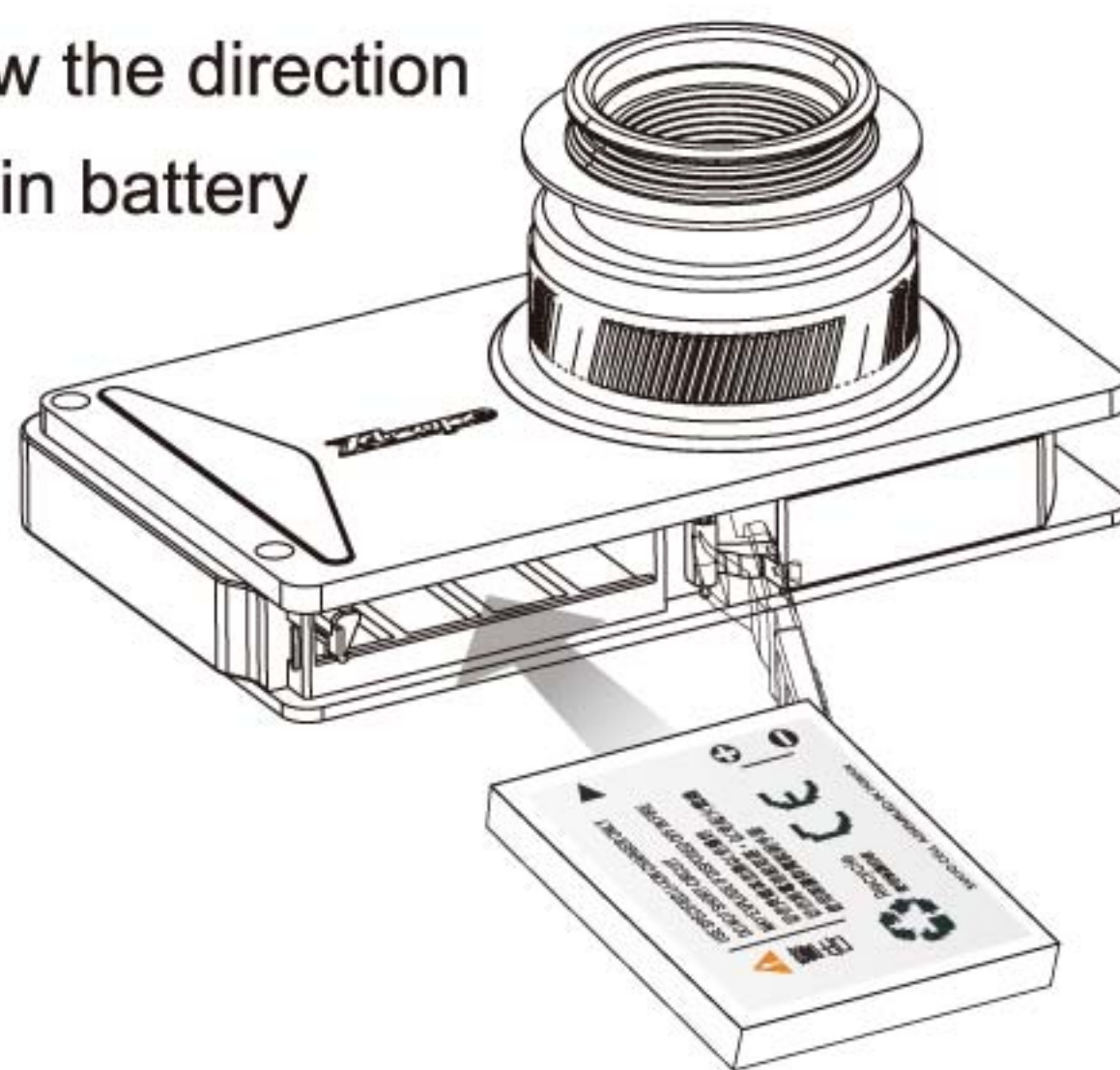
Product Assembly

1 Assembling of Module and Lens :

- (1) Select the magnification lens as desired.
- (2) Align the 3 contact pins(- ①) on the back of objective lens to the 3 holes(-②) on the front side of module(fig. ②③), then attach the lens to the module.
- (3) Rotate the screw ring until it is tight. **But do not over-tighten!**
- (4) Open the batter cover on the button of module(press the part of ③ and slide the battery cover in the direction indicated by the arrow,) and fill in fully-charged X-Loupe™ NB-4L Li-ion battery.
Caution: NB-4L Li-ion battery charging 4 hrs for the first time; 1.5 hours for general usage.
- (5) Turn on (in the direction of red dot) X-Loupe™ module power. The white light LEDs should light up if handling is corrective.



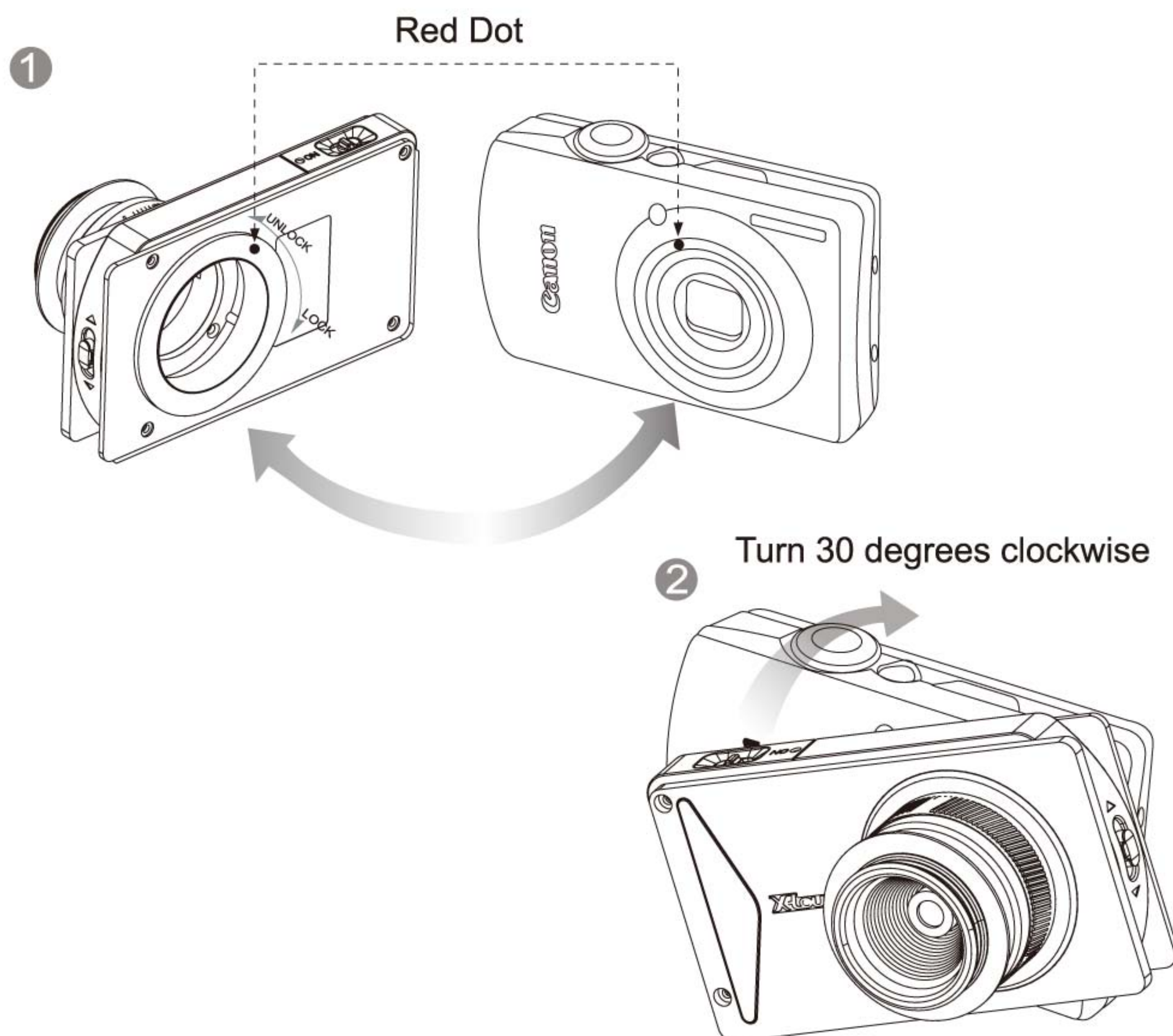
Follow the direction
to fill in battery



Product Assembly

2 Assembling of Module and Camera :

- (1) Align the red dot indicator on mount ring (the back of module) to the red dot on mount adapter of camera.
- (2) Attach X-Loupe™ module to camera and turn 30 degrees clockwise, until both bodies are completely stable union.
- (3) Turn on the camera power. The image preview should show up on LCD monitor if handling correctly. If the lens barrel can not extend properly, or error code shows on camera monitor, please refer to the troubleshooting section of this manual ; If unable to solve, please immediately contact your distributor for assistance, do not try to modify X-Loupe™ by yourself in any way.

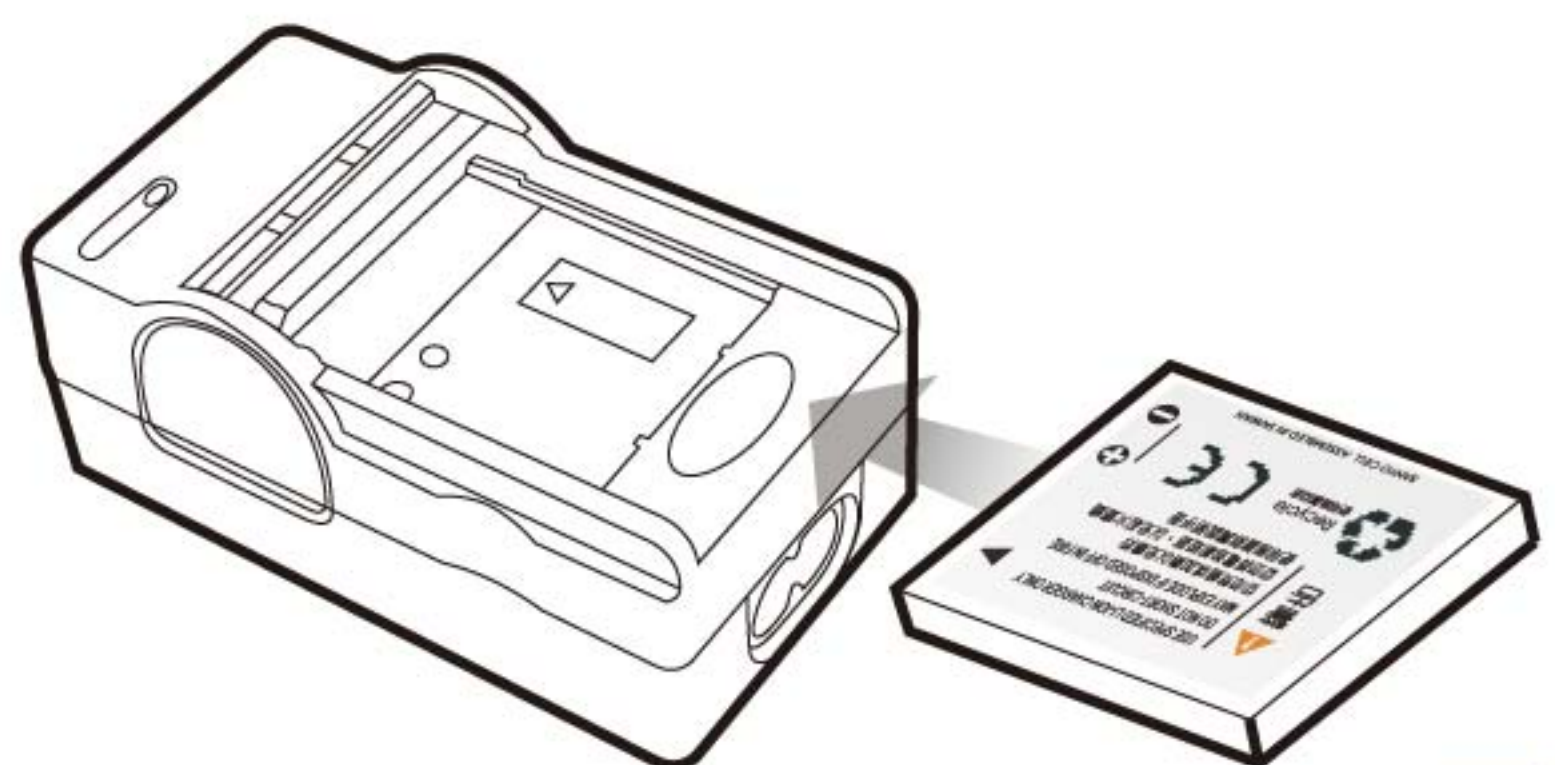


Attention/Warning for the Battery Charging

Recharge your battery only with we approved chargers designated for X-Loupe™ .

Please go by following steps to charge the battery .

- (1) Align the arrow of the battery (NB-4L) with the arrow of battery charger, and insert the battery into the charger.
- (2) Plug the battery charger into the power outlet, or attach the power cord to the battery charger and plug it into a power outlet then the Charging Signal will light on.
 - Steady Red: charging; Steady Green: charging completed .
 - Alternate Red and Green: battery malfunction
- (3) If the Charging Signal does not light on after plug in the battery charger, please check the following:
 - a Battery loose from the battery charger?
 - b Does the power outlet switch ON?
 - c Check other factors which might affect the power supply of the outlet.
 - d Ask the expert for help to check the power outlet, or change another one and try again.
- (4) After full charge, remove the battery from charger. Do not leave a fully charged battery connected to a charger , since overcharging may shorten its lifetime. Unplug the charger from the electrical plug when not in use.
- (5) DO NOT use the battery charger in humid circumstances.
- (6) DO NOT dispose of batteries in a fire as they may explode. Batteries may also explode if damaged. Dispose of batteries according to local regulations. Please recycle when possible. DO NOT dispose as household waste.



Notice and Preparation for Micro-Photography

1 X-Loupe™ Basic Setup before using

When the X-Loupe™ is assembled, please do the following procedures to enjoy using the X-Loupe™--

- (1) Loaded and ready the battery and memory card into the camera.
- (2) Select the lens as desired and assemble it onto the X-Loupe™ module.

How to choose a proper magnification lens?

- ◎**Field of View:** The larger magnification, the smaller field of view, and vice versa.
- ◎**Depth of Focus:** The larger magnification, the smaller depth of focus, and vice versa
- ◎**Moving Speed of the object:** The faster object is moving, and the objective lens with smaller magnification should be used in order to obtain clear pictures. It is useful while taking picture for a living thing such as insects and the earthworm.

- (3) Turn on X-Loupe™ and camera. The lens of camera should stretch out, and there will be image circle observed on the LCD monitor, and it's normal. Then you have to adjust the camera to its maximum optical value, and this will be the standard optical zoom value for operating X-Loupe™.



- (4) Remember to turn OFF the camera flash whenever you are using X-Loupe™.


2 Camera Setup before using/while using for Micro-Photography

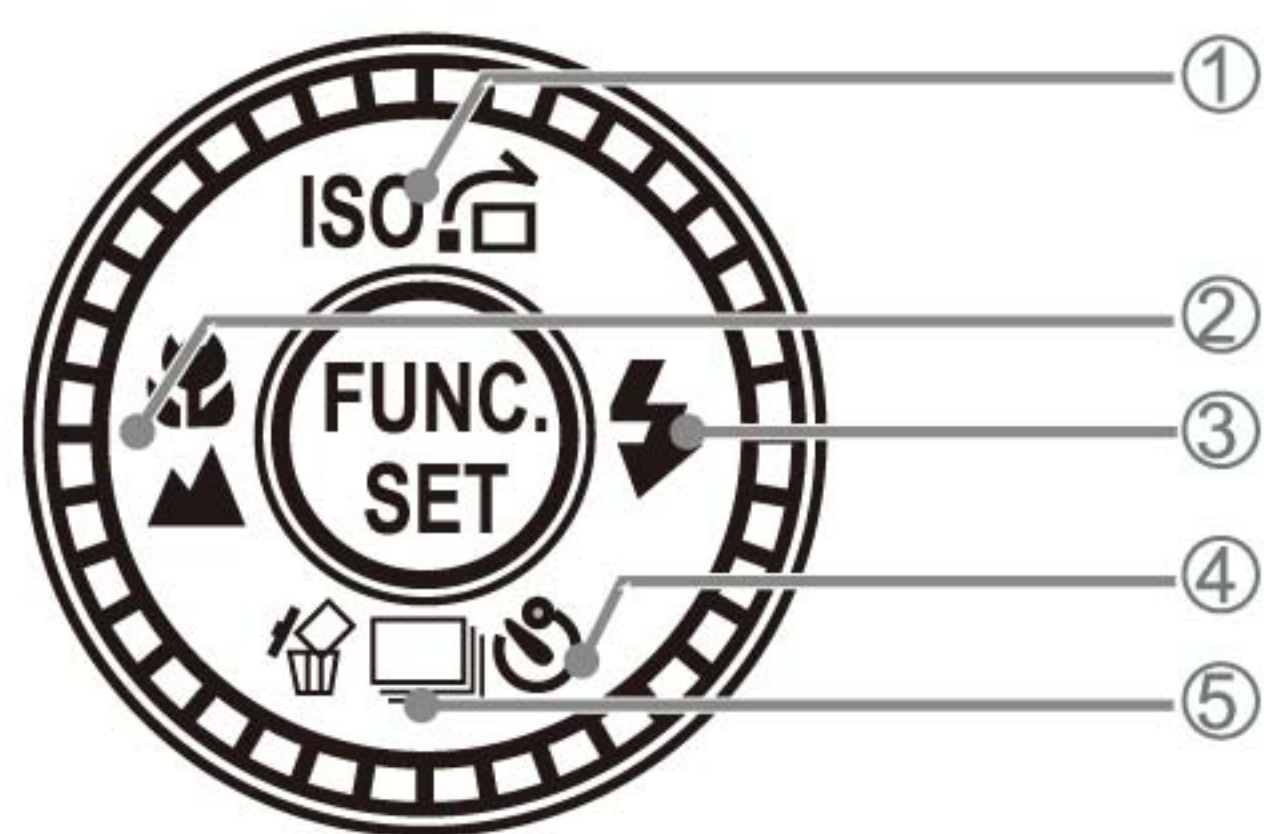
All the settings of camera collocated with the X-Loupe™ have been altered to meet the micro-photography prior to its shipping. Afterward, if there's any setting changed, please refer to the following setting list.




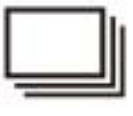
- (1) Adjust the zoom to its maximum optical value for micro-photography.
- (2) Manual Mode is required for micro-photography. Do Not use Macro / Infinity Shot Mode.
- (3) Set the Exposure Compensation to zero.
- (4) Set the White Balance to Day Light Mode while using the Light Source of X-Loupe™.
- (5) Set the Tone of an Image to Vivid.
- (6) Set the Metering System to Evaluative.
- (7) Turn OFF the flash for micro-photography.

Notice and Preparation for Micro-Photography


The Setting based on Canon Power Shot SD 880IS/IXY Digital 920IS is for reference and revision, and other type as well


- (1) Moving the zoom lever towards  , the sign of 4 X for its maximum optical value should show up on LCD monitor.
- (2) Refer to Canon Power Shot SD 880IS Camera User Guide p.66, to set the P Mode as the Manual Mode.




①	ISO	<Tips > Lowering the ISO speed results in crisper images. Raising the ISO speed results in a faster shutter speed, reducing camera shake, but the images will appear rough. Therefore, get the setting on ISO 80/100, not over ISO400 for the micro-photography.
②		Do not use Macro / infinity shot Mode.
③		<Notice> The switch position is pressed easily by thumb to turn ON the flash accidentally.
④		< Tips > Canon Power Shot SD / IXY Digital series is not compatible with the shutter cable release. To reduce the influence of vibration during shooting, please use Self-Timer for better performance. Please refer to Canon Power Shot SD 880IS/IXY Digital 920IS User Guide Page 61.
⑤		< Tips > Single shooting is the default setting. In a circumstance where stable posture is hard to maintain, or the subject is moving or trembling, please choose Continuous Shooting Mode to take more pictures for getting better results.






Notice and Preparation for Micro-Photography

- (3) Press the MENU button. There are menu items organized under tabs. Enter the  tab and follow the functions setting below.

Menu Setting	Suggestion on Settings	Menu Setting	Suggestion on Settings
AF Frame	Center	Review	2 sec.
AF Frame Size		Review Info	Off
AF-Point Zoom	On	Save Original	
Servo AF		Auto Category	On
Digital Zoom	Standard*	Disp. Overlay	Off
Flash Setting		IS Mode	Continuous
i-Contrast		Date Stamp	Off
Drive Setting		Set  Button	
AF-assist Beam	Off	About the not special indicated items, please adjust the setting as desired.	

* For inspection purpose, the bigger digital zoom you use the less picture quality you get. However, it helps user to view the subject in an easy way. For micro-photography purpose, suggest using optical zoom only in order to have better picture quality, and check the file with larger magnification on the LCD monitor.

- (4) Press the  button. There are basic operation items. Select the item and follow the functions setting below.

FUNC. SET		
± 0	+/- (Exp.)	0
	White Balance	day light
	My colors	vivid
	Metering System	evaluative
	Image Quality	fine
	Recording Pixels	10m (2816*2112)

Troubleshooting

Troubleshooting

- (1) About the troubleshooting of camera, please refer to the Camera User Guide.
- (2) The built-in LED of lens barrel is not bright
 - a. Check the battery power.
 - b. Disassemble the lens and assemble it back to the module again. Make sure that the assembling of the lens and module is correct.
 - c. Check the brightness index of module lighting is not set to zero. If it is, set back to “entire bright” or the suitable brightness.
- (3) Error code shown on camera display- the lens barrel of camera can not stretch out or retract
 - a. Turn off the camera power to make the lens retract. Disassemble camera from the X-Loupe™ module, and turn on the power of the camera again. The lens of the camera should be able to stretch out.
 - b. If the problem is not solved, contact your local distributor; never try to fix the camera lens by force because it might void the warranty.
- (4) Could not see the full field of view on the camera monitor
 - a. Adjust the Zoom of camera to Maximum so that the full field of view can be obtained.
 - b. Check the camera lens and make sure that the lens is able to stretch out and Zoom Function is working.
- (5) Out of Focus
 - a. Adjust the direction or posture while shooting.
 - b. Press the shutter halfway and adjust the distance between the subject and lens to reach the best focus.

Troubleshooting

- c. X-Loupe™ is a contact-based digital microscope; therefore, do not take the picture out of its short working distance.
 - But it is a way to get a longer working distance only by rotating the preceding hood of lens clockwise and carefully and then remove it. (refer to page 5 Demountable lens)
- d. After mounting the barrel back, you might need to check the focusing of lens because the working distance may vary. To solve this, take X-Loupe™ to focus on a flat subject again, and rotate the barrel slightly tighter or looser to adjust the proper working distance. If the problem is not solved, contact your local distributor.

(6) The battery is fully charged, but lasts for shorter and shorter time:

The lithium battery can only be recharged for certain amount of times, but it will eventually wear out. Please purchase a new battery from your local distributor.

(7) Hardware malfunctions such as slipped power switch or fatigue pin:

Please contact your local distributor.

How to keep X-Loupe™

- (1) It is advised to use X-Loupe™ in a moisture-free environment and keep away from water.
- (2) Keep X-Loupe™ in the dry environment such as a dry box, and get some desiccants inside the storage case/ box.
- (3) If you purchased the optional “X-Loupe™ specialized carrying case”, just put it back into the carrying case after using, and get some desiccants inside if necessary.

DECLARATION OF CONFORMITY

CISPR 22/12.1998, 47 CFR Part 15 Subpart B (FCC)

(Tested to comply with FCC Standards)

We: Lumos Technology Co., Ltd.
7F, No. 8, Wanhe St.,
Taipei 116, Taiwan, R.O.C.



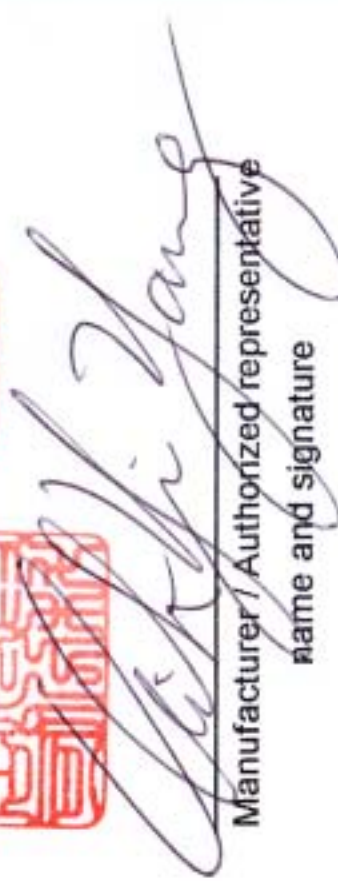
declare on our own responsibility, that the product:

Kind of equipment: X-Loupe Portable Field Microscope

Type-designation: X-Loupe Starter

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Taipei, Taiwan Apr 20, 2006
Place and date of issue

  
Manufacturer's Authorized representative
name and signature

CE

Declaration of Conformity

EQUIPMENT X-Loupe Portable Field Microscope

TYPE X-Loupe Starter

SeriesNumber NA

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC) and the amendments in the Council Directive 91/263/EEC, 92/31/EEC, 93/68/EEC.

For the evaluation of above mentioned Directives, the following standards were applied.

EN 55 022:1998 Class B A1:2000 A2:2003
EN 55024:1998 A1:2001 A2:2003
IEC 61000-4-2:2003, IEC 61000-4-3:2004

The following manufacturer is responsible for this declaration:

Lumos Technology Co., Ltd.
7F, No. 8, Wanhe St.,
Taipei 116,
Taiwan, R.O.C.

February 14, 2006

  
Signature Manufacturer