



LIGHT SCOPE

Operation Manual

MSHS-1000Ⅲ

Thank you very much for purchasing our product. Please read this manual first and be sure to follow its instruction when using the device. Do not lose or throw away this manual, since the warranty on the device is attached at the end of it.

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Safety Information



Warning

This sign applies when an improper use of the device may result in death or serious personal injury.



Caution

This sign applies when an improper use of the device may result in personal injury or damage to the device.



Warning

- This device must not be used for medical purpose. It must not be
- applied to any part of a human or animal.
- You must not use this device for direct observation of strong lights
- such as sunlight. Otherwise you may lose your sight.
- Do not remodel or disassemble the device



Caution

- Keep the device out of the reach of children to prevent them from getting hurt.
- Do not forcibly bend, twist or elongate the fiber image tube. Otherwise the optic fibers may break.
- Do not bend the fiber image tube with a radius smaller than the limit. (The limit radius of MSHS type R is 60 mm.)

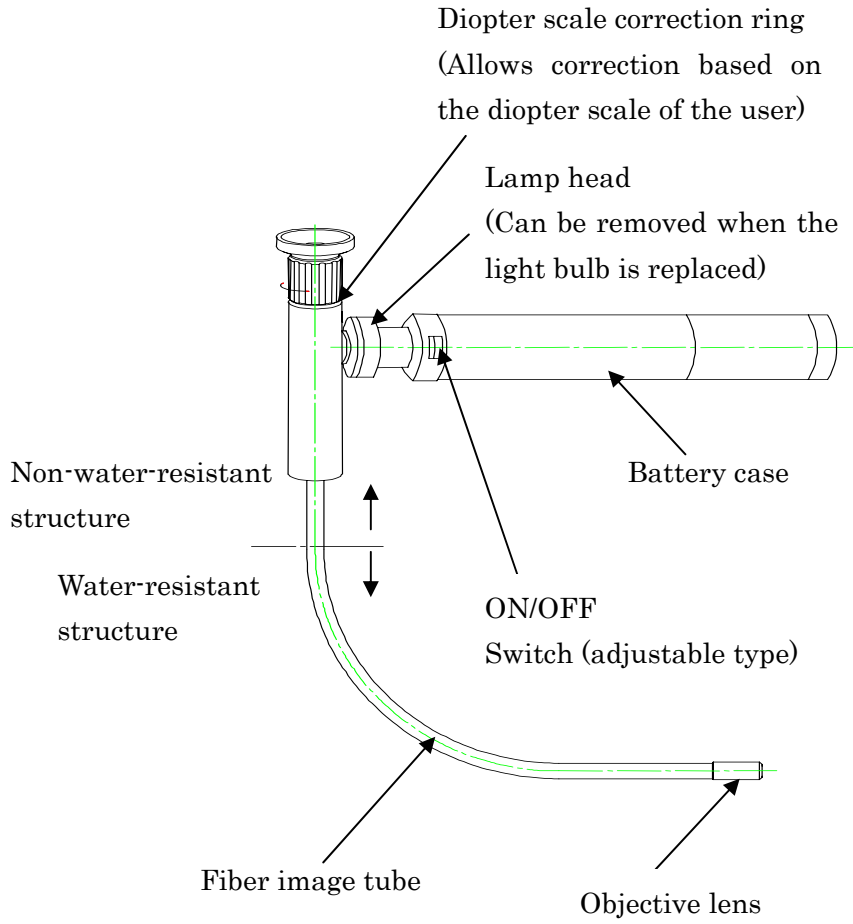
 **Caution**

- Do not use or store the device at a temperature higher than 60°C or lower than -20°C.
- The fiber image tube and objective lens of this device have a water-resistant structure. However, the ocular eyepiece does not. Do not soak the eyepiece in any kind of solution or get it wet with water. The water-resistant parts are not designed for use in an air pressure higher than 1317 hPa.
- Strong impact on the device may result in the breakage of the objective lens (made in glass) at the tip of the tube.
- The fiber image tube for transmitting image data consists of a bundle of several thousands of very fine strands (13 μ m). Sometimes, because of their fragility, these fibers may be broken in the process of production, which may result in tiny black dots appearing on the screen. Please understand that these dots do not mean the device is out of its specifications.

Note

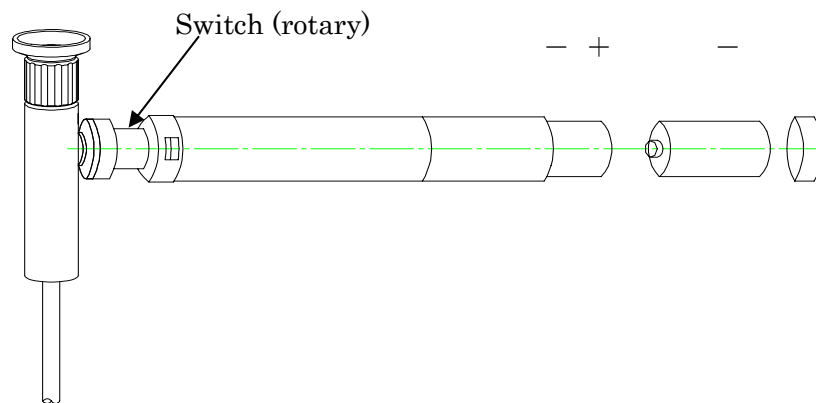
- Keep the device away from acid or alkaline solution, oil or petrol, and do not use it in an atmosphere containing their vapour.
- Ensure the polarity of dry cell batteries is correct when setting them in the battery case. Be sure not to use new batteries with old ones. Otherwise, the batteries may burst and leak their liquid contents, which may cause a fire or personal injury.
- Do not directly put your eyes to the objective lens or look into it. Otherwise your eyesight may be seriously impaired.

Parts and their Functions



Setting Batteries

- ① Turn the battery case cap counter-clockwise and remove it from the battery case.
- ② Put three C batteries into the case as shown in the illustration below after checking the polarity of the batteries, and tighten the case by turning it clockwise.
- ③ Turn the rotary switch on the battery case counter-clockwise to obtain the maximum light intensity. Reverse the process to obtain the minimum light intensity and eventually to turn the light off.

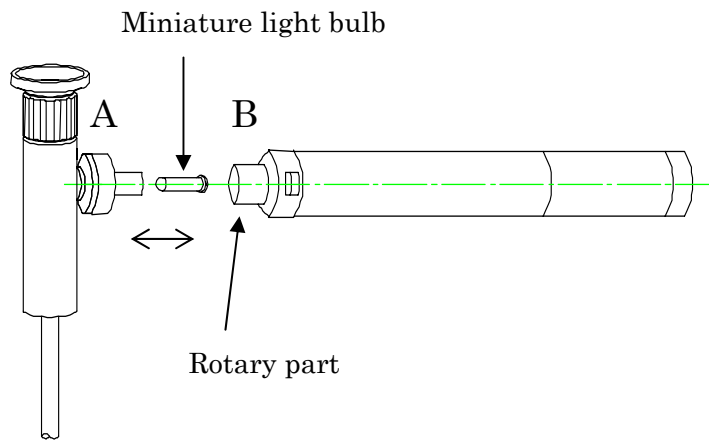


Estimated maximum life of batteries (when continuously used)	Manganese dry cell batteries	approximately 90min.
	Alkaline batteries	approximately 3 hrs.

Caution Turn the device off after use without fail.

Detaching Device Body from Lamp Head /Replacing Lamp Bulb

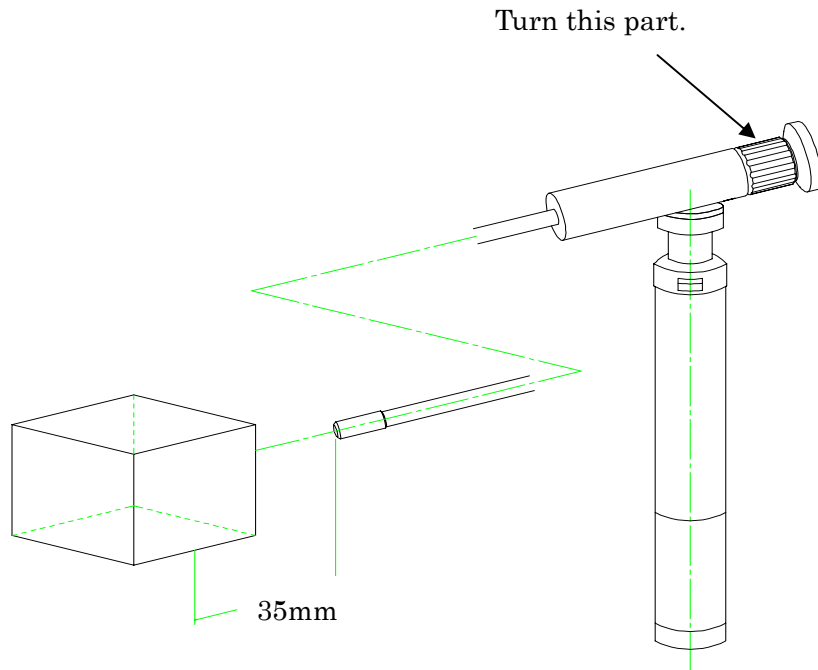
- ① To detach the device body and the light head, turn the rotary part **B** of the lamp head clockwise while holding the part **A** still as in the illustration below.
- ② Then pull the miniature light bulb out of the socket on the body of the device in a straight line.
- ③ Insert a new bulb straight in to the bottom of the socket.
- ④ Fix the light head back to the body.



Warning The light bulb is very hot while it is on and immediately after it is turned off. Do not touch the bulb until it is cool enough.

Correcting Diopter Scale

Hold the objective lens at approximately 35 mm from the object and turn the diopter scale correction ring until the image of the object is in focus.



Care and Maintenance

When the objective lens gets dirty, wipe it with a soft cloth or a Q-tip. When the lens becomes badly dirty, clean it with a Q-tip lightly soaked in alcohol.

Caution To prevent the risk of infiltration of alcohol, do not apply such a Q-tip to the lens for too long time.

Optional Connections

Lateral view adapter

Light generator

Light guide

Camera mounting adapter

Handi-camcorder adapter

Digital camera adapter

Universal Light guide adapter

Product Specification

Model		MSHS-1000III
Fiber	Fiber Material	Acrylic
	Number of Pixels	7400Pixels
	Fiber stand diameter	13 μ m
	Allowable ratio of fiber leakage	1% and less
Cord	Fiber Material	SUS304 coated with PVC
	Minimum bending radius	60mm
Light source	Light source ※	3.5V 0.7A 2.55W
	Power supply	3x C batteries (not supplied with the device)
Optical characteristics	Focal direction	Straight and lateral (optional)
	Focal angle	55°
	Focal length	10mm ~ infinity (fixed focus)
Water-resistance		Objective lens and fiber image tube water-resistant at an atmospheric pressure between land 1.3bar(1013 to 1317hPa)
Working temperature range		-20°C ~ 60°C

※Purchase replacement light bulbs at dealers.

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After-sale Service

1. If the device proves to be defective during its warranty period despite your compliance to this operation manual and signs on the device, we will provide you our after-sale service or a replacement of the broken device without charge.
2. Our free after-sale service dose not apply when
 - (a) You fail to present to us the warranty of the device attached to this manual;
 - (b) Either the purchase date, or the customer's name, or the dealer's name is omitted from the warranty;
 - (c) The failure of, or damage to, the device is the result of an improper usage, repair or modification;
 - (d) The failure of, or damage to, the device is the result of strong impact on it after purchase;
 - (e) The failure of, or damage to, the device is the result of (an) external cause(s) such as a fire, earthquake, thunder, or flood.

Warranty of Light Scope

Model		
Ser.No.		
Customer	TEL Address Name	
Symptom(s)		
Dealer's name		
Term of warranty	Date of purchase From Date Month Year	Till the end of the sixth month after purchase

This paper guarantees that we will provide you with our after-sale service or a replacement of the broken device within the range of the conditions mentioned above. When the device at your hand proves to be defective or damaged prior to the expiration date of this paper, present this paper with the device to the

dealer from whom you purchased it. Any omission of the contents from the paper makes the warranty invalid. Please keep this warranty because it will not be reissued if lost.

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