



User Manual

MF-BG-LED

Epi-LED Fluorescent Illumination



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Thank you for buying our product!

This unit is a precision optical instrument. Our product has been design to provide the highest level of safety, however, improper operation or negligence in following the instructions in this manual may cause personal injuries and property losses. In order to ensure your safety, prolong the life of this unit and maintain it properly, please read this manual carefully before operating this unit.

MSHOT MF-BG-LED Epi-LED fluorescent illumination is used for upgrading upright infinity optical microscope to epi-fluorescent functional, it has blue and green two colors excitation, without affecting the bright field observation. LED as light source has a long working life, energy-efficient and easy to operate. MF-BG-LED, not only can match with MSHOT microscope, also can match with Olympus, Nikon, Leica, Zeiss microscope and other major brands.

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A. Standard Specification

Mode	LED color	LED central wavelength	Excitation Filter	Dichroic mirror	Emmision filter
MF-BG-LED	Blue	475nm	460-490nm	>500nm	>510nm
	Green	530nm	510-550nm	>570nm	>590nm

B. Component parts

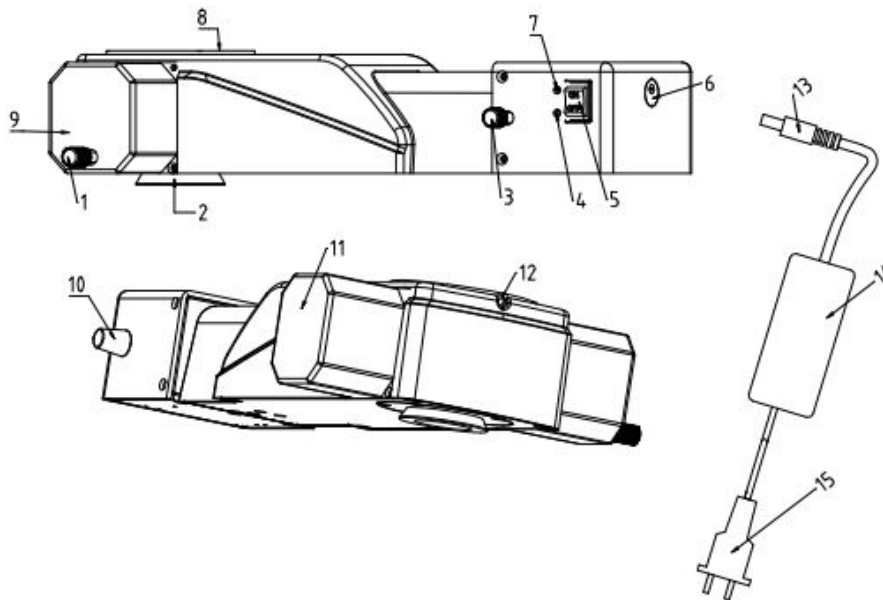


Figure 01

1.Switch lever 2. Bottom interface 3.LED light source switch lever 4.LED light indicator I 5.Power switch
6.Power DC connector seat 7.LED light indicator II 8. Up interface 9. Filter cube out shell I 10.Brightness adjustment knob 11.Filter cube out shell II 12.Up interface screw holes 13.Power adapter interface 14.Power Adapter 15.Adapter jack

To match with different brand microscope, the up and bottom interface (2,8) is different generally, please make sure your microscope brand can connect with the illuminator. Such as MF-BG-LED-O is used to match with Olympus microscope, similarly, MF-BG-LED-N is used to match with Nikon microscope.

C. Installation Guide

MSHOT MF-BG-LED can be matched with different brand of microscope, take Nikon E100 as ample to introduce the installation step.

1. Unpack and take out appropriate accessories includes epi-fluorescence illumination body, power adapter, screwdriver. Then remove the microscope observation tube. As shown in Figure 02.



Figure 02

2. Take out the fixed screw on Nikon E100 body first (As shown in Figure 03). Then place the illuminator stably on the microscope body, then take use of match size screwdriver to fix it. At last, mount on eyepiece tube. As shown in Figure 04.



Figure 03

3. Plug in power adapter to the DC block at the back of LED light box. Get it power on and start to enjoy (Adjust steps, please consider D. Using guide).

Function description

1. Switch lever——Used for transfer between bright field and fluorescent observation. Fully draw out, it is bright field observation. Fully push in at the gear, it is blue color fluorescent excitation cube. Half push in, it is green color fluorescent excitation cube.
2. LED light source switch lever ——Draw out green light appeared, push in blue light appeared.

Note : When having fluorescent observation, please keep LED light source at the same color with filter cube. As shown Figure 04 and Figure 05

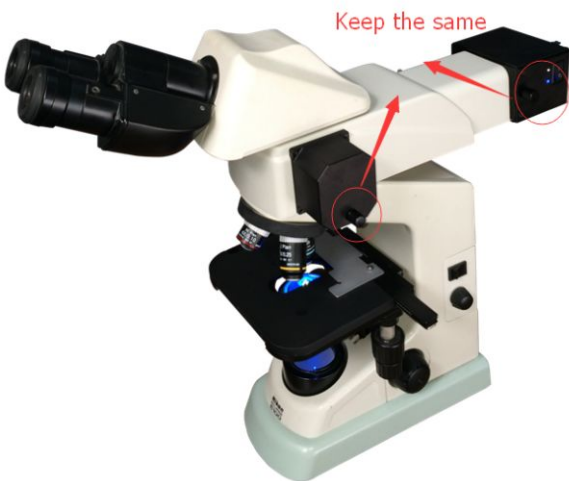


Figure 04



Figure 05

3. Brightness adjustment knob——Used to adjust brightness of LED. As Figure 06.



Figure 06

D. Using Guide

1. Push in switch lever and LED light source switch lever (do not push to the end, but the position is stuck lightly), now it is at the blue color fluorescent excitation. Put a white paper on the stage, move your objective to 10X.
2. Plug in the power adapter, turn on light switches. Corresponding indicator lights (4 or 7 in Figure 01) --- LED lamp has been power on. At the same time, circular light spot appears on the white paper. Checking the light spot shape on the white paper, if not round shape, adjust the position of the switching lever or LED light source switch lever, to make the spot light to be round shape.
3. Transfer to different objectives to confirm whether all light spot are at round shape. If not, adjust by step 2 again.
4. Switching lever is pulled to half the state (to the position is stuck lightly), draw out LED light switch lever (to the position is stuck lightly), now it is at the green color fluorescent excitation. Repeat steps 3 and 4, if there is no problem, can be used normally.
5. When using transmitted illumination to do bright field observation, turn off the LED light source, fully draw out the switch lever to the end.

D. Attention

1. LED brightness can be adjusted freely according to the degree of difficulty of the sample was observed, generally brightness adjust to the extent of 80% is good to use, also less than full load current can prolong the service life of LED lamp.
2. When doing fluorescence observation, block transmitted light illumination condenser lens with non-reflective black small plate , to prevent interference with reflective light. Or you can adjust the position of the condenser up and down of the transmitted light illumination system, you can find an optimal position. As shown in Figure 07.



Figure 07

3. In the fluorescence observation, avoid prolonged sample illumination lead fluorescence quenching, during observation gap you can directly turn off the light.