

# MA314102 Fiber Optic Illuminator Instruction Manual



Please read the User Manual before using the illuminator.

## I . Features

This product family constitutes the cold-light illumination power supply specially designed for the industries like image processing, medical instruments, microscope illumination and industrial measurement. The switching power supply is adopted with the features like small volume, light weight, high efficiency, as well as the protection of over-current and over-temperature. Particularly, the soft-starting circuit is adopted in light of the low resistance of halogen lamps in a cold status to ensure the life spans of bulbs. The range of adjustable power supply output is 5-15V to meet the demand of the different luminance.

The halogen lamp cup is adopted for the power supply of this product family. Large amounts of infrared rays could be filtered after the transmission through the heat-insulating glass and the light-transmitting fiber, thus the spectrums finally gained would be visible light, namely the cold light sources we refer to.

## II . Function Instructions

1. **Adjustable voltage output** is adopted in the product design. The high-efficiency switching power supply of advanced technologies along with the adjustable knobs in the outside could control the scope of
  2. output voltages in a stable manner. The adjustable rate of output voltages is  $\leq 0.1\%$ , which ensures that the halogen bulbs work in a safe range of voltage.
  3. The **soft-starting function** of this product is designed in light of the loading feature of the halogen lamps to prevent the damages against the bulbs and the power supply by inrush currents and improve the stability of the power supply.
  4. This power supply is equipped with the following protection functions:
    - (1) **Protection of output short circuit:** The machine would be automatically turned off for protection in case of output voltage short circuit, and the machine would be automatically turned on after the circuit is fully recovered.
    - (2) **Protection of output over-current:** In case that the output current exceeds 120% of the rated current, the output power would be automatically restricted to extend the life spans of bulbs.
    - (3) **Overheating protection:** In case that the inside working temperature is higher than  $95^{\circ}\text{C}$ , the power supply would be cut off for protection; and after the temperature is reduced to below  $65^{\circ}\text{C}$ , could the power supply be automatically restored.
5. The **components in line with the Safety Regulations** are adopted in this power supply, and at the same time, the **Design Norms of the Safety Regulations** are followed during the PCB wiring process to ensure that the products could reach GB4943, CG, UL, TUV and other safety rules.
6. Fans are adopted in this power supply for cooling and overheating protection to make it possible for the circuits to work continuously in high temperatures. MTBF (Mean Time between Failures) is more than 10000 hours.

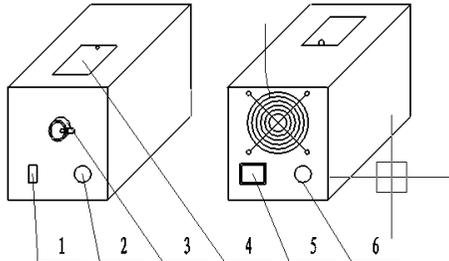
## III. Specifications

<b>Power supply:</b>	AC 120V 60 Hz or 240V 50Hz
<b>Power consumption</b>	150W
Output current	10A Max
Intensity of illumination and stability	When the input voltage ranges between $\pm 15\%$ , the variation of output voltage should be below 0.1% and that of illumination intensity should be below 0.8%.
Ripple voltage	$\leq 60\text{mV}$
<b>Operating temperature</b>	$-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$

Protection	Output short-circuit protection; overheating protection (Cut-off at 95°C and automatic restoration at 65°C)
Voltage-resisting intensity	Input—Machine Cover, Input—Output @ Leakage Current , no puncture at 1500VAC within 1min. Output—Machine Cover, no puncture at 500 VAC within 1min.
MTBF	>10000h
Safety Rules	In line with UL, TUV and CCC
Lamp:	24V 150W halogen reflector bulb

#### IV. Product Frameworks

1. Switch of Power Supply
2. Adjustable Knob
3. Fiber Socket
4. Bulb Replacement Cover
5. Socket of Input Power Supply
6. Fuse



#### V. Operating Instructions

Open the package, cautiously take out the cold light source of halogen lamps and its power supply wires to examine whether its voltage is consistent with the machine input voltage or not. Indicated as in Figure 1.



Ensure that the power supply switch is off (downward) and turn the light-adjusting knob anticlockwise to the original position.



Insert the fiber tie-in into the light-guiding socket and fix it with locking screws.



Turn on the power supply switch (upward) and adjust the knob according to the demand.



### VI. Bulb Replacement Instructions

Bulb replacement is a simple process and no tool is necessary. Firstly, make sure that the original bulbs inside the light source have cooled down, unplug the power supply and pull out the wires; then unfasten the spring spanner and open the upper cover; after that, take out the broken bulb from the bracket and replace it with a new one of the same type and model; at last, close the upper cover and fix it with screws.



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### VII. Care

- Please cut off the power supply after the operation to keep the light source clean and dry. And please wash the hardware with mild detergents.
- Please keep the distance between the fan vent and its nearest shelter higher than 15CM to ensure regular cooling-down after the power supply is turned on.
- Please turn off the machine and cut off the power supply for cooling-down before any operations for replacement of bulbs and fuses.
- Only fuses of the rated value could be used for fuse replacement.

### VIII. Packing List

- Illuminator: 1 (with bulbs inside)
- Power Supply: 1
- Fuse: 1
- Packing Case: 1
- Instruction Manual: 1