



USER MANUAL

ILT250A & IPT250B



OPTICS FOCUS INSTRUMENTS CO., LTD.

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1. Overview

The tungsten lamp is an earlier type of incandescent lamp, and the filament is made of tungsten. Tungsten is a refractory metal, with a melting point of 3,665K, a hardness of HM 7.5, silver, and a specific gravity of 20 after machining. After the glass bulb is filled with halogen gas, the service life of the lamp is further extended due to halogen tungsten circulation.

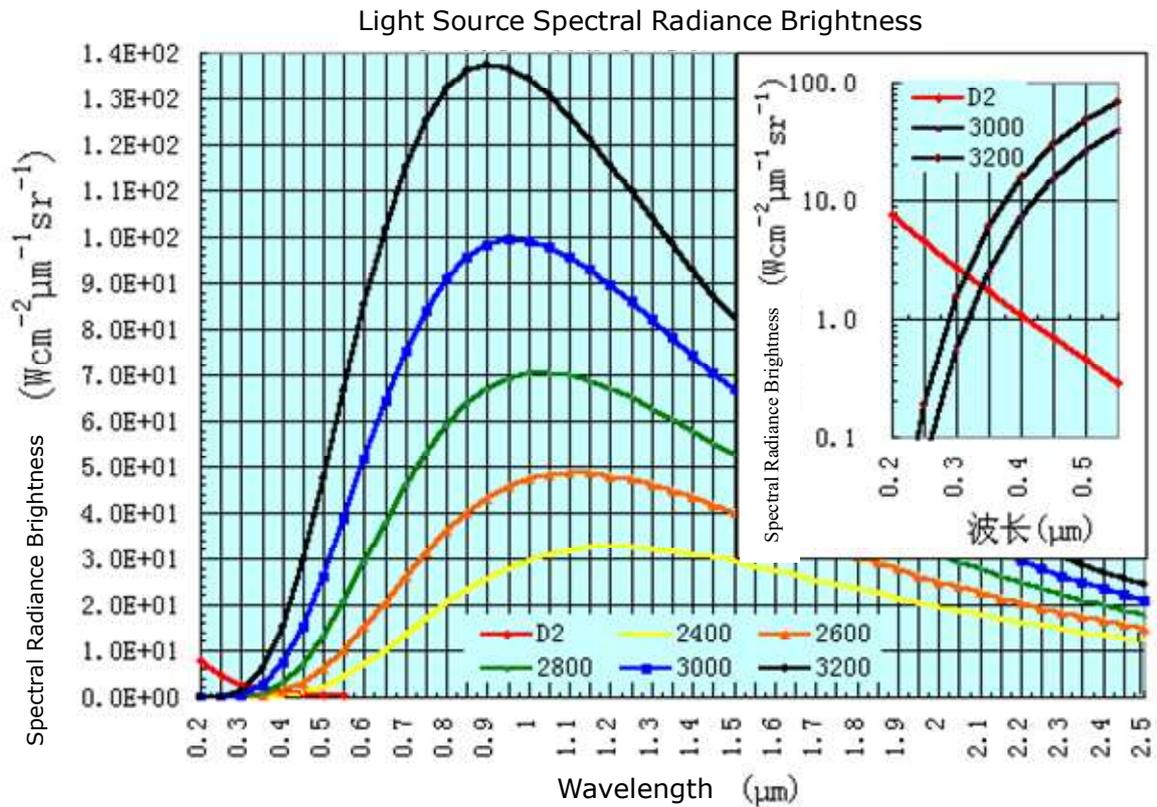
The tungsten lamp is the spectrum instrument, and light source of various physical, biochemical, medical, environmental protection and other measurement instruments, and light source of other laboratories.

The ILT250A tungsten lamp light source produced by our company has the below characteristics:

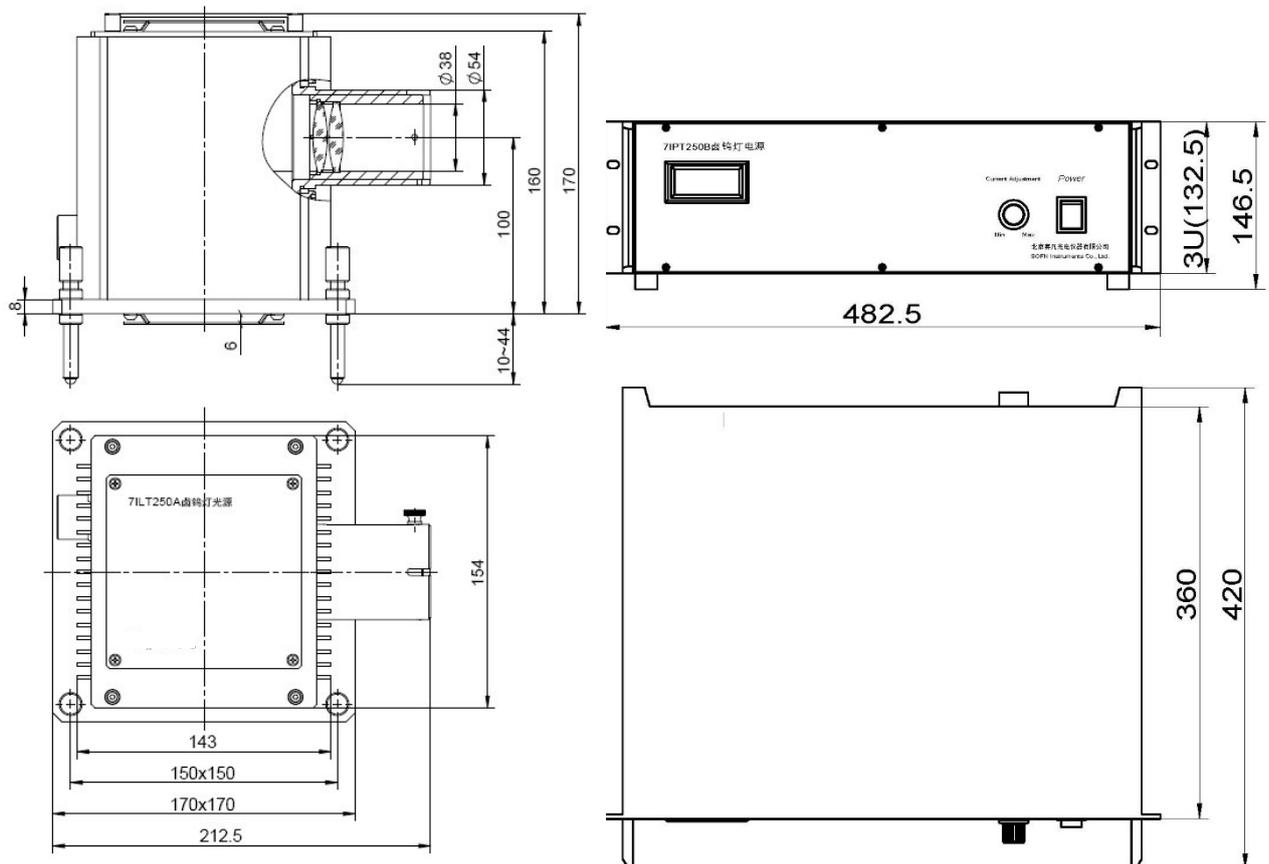
- The bulb luminous flux is stable, and the bulb luminous flux at the end of the lamp life is 95~98% of the beginning. Equipped with IPT series power supply, the fluctuation of bulb luminous flux is small.
- The color temperature is high up to 3,000K, and the color temperature of tungsten lamp only decreases by about 50K during the whole service life.
- The light effect is high up to 20~30 lumen/W.
- The service life is long, and the service life under rated power can reach about 300 hours (without repeated switching).
- It can be used separately as a light source, or combined into the application system with other products of our Company, or connected to other optical instruments.

The IPT250A type tungsten lamp power supply specifically provides the high-stability DC power supply for the ILT250A type tungsten lamp, thus makes the latter become the light source with stable radiation for precision measurement. The adjustment way of this power supply is manual.

2. Typical Spectrum Distribution of the Tungsten Lamp



3. Appearance and Dimensions



4. Performance Parameters

ILT250A Tungsten Lamp House	
Spectral Range	300~2500nm
Light Source Color Temperature	3000K~3200K
Bulb Luminous Flux	9000lm
Bulb Life	300h
Bulb Model	HLX64657 (24V/250W)
Minimal Beam Size	5mm×10mm
Parallel Beam Diameter	38mm
Focal Lens	Fused UV Silica Lens
F/#	F/2~F/∞
Cooling Form	Air-cooling Fan
Weight	3.6kg
IPT250B Tungsten Lamp Power Supply	
Supply Voltage	AC220V±10%/50Hz
Rated Power	250W
Current Adjustment Range	9.5~10.5A (250W)
Output Current Drift	±0.06%/h
Current Stability	0.1%
Output Display	3 ¹ / ₂ -digit LCD current
Output Current Adjustment	Manual
Weight	11kg

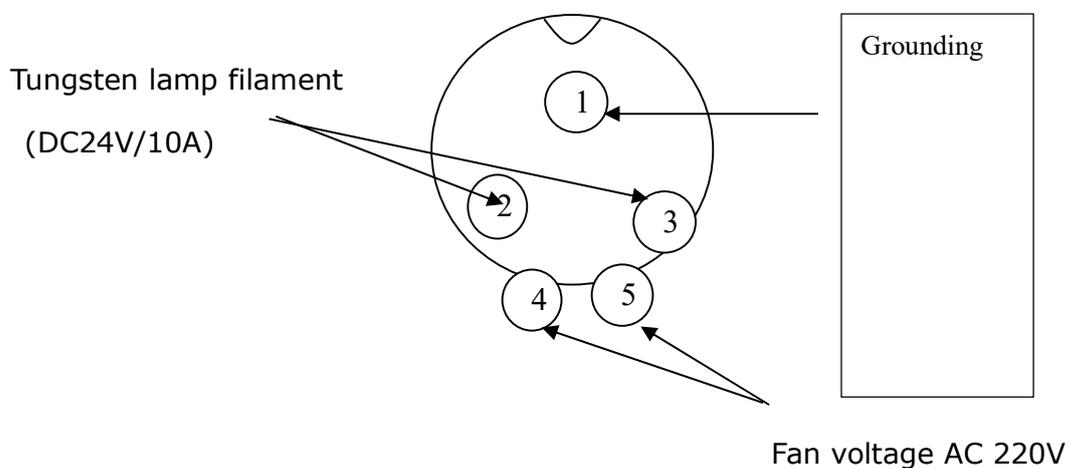
5. Principles of Optics

The ILT250A tungsten lamp light source adopts the excellent fused UV silica lens, and has high transmittance in UV and near-infrared, and full energy utilization rate.

The ILT250A tungsten lamp light source can adjust the focal length in a large range to meet the requirements of different focus positions, from approximately parallel light to F/2. Unscrew the knurled screws of the focusing lens barrel, and pull the lens set along lens barrel direction, so as to realize focusing. After completion of the focus adjustment, screw the knurled nails tightly for fixation.

6. Wiring Introduction:

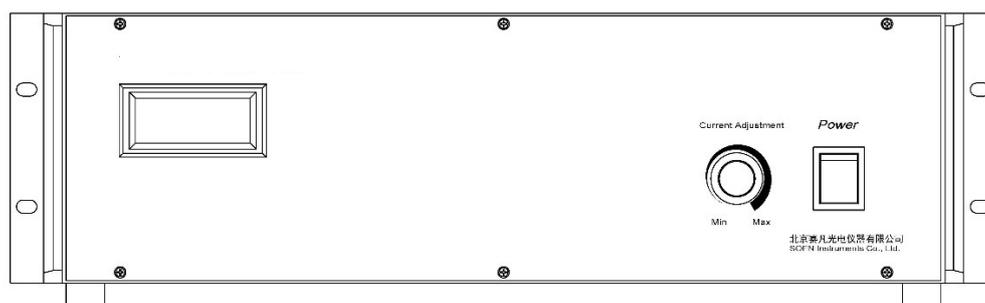
The wiring diagram of exterior view and wick No. of ILT series tungsten lamp light source chamber socket is as below:



7. Use Introduction

Below is the operating instructions of the IPT250B power supply panel.

- Power: power switch, the red light is on, and the dark light is off.
- Current Adjustment: current adjustment, clockwise rotation to increase output.



8. Bulb Replacement

When the bulb needs to be replaced, please replace it under the condition that the power is off and the light source chamber has been cooled. Unscrew the screws on the side cover of the light source chamber, open the side cover, remove the old bulb carefully, and insert the new bulb into the magnetic lamp holder. After confirming that the filament is aligned, cover the side cover of the light source chamber, screw the screws, and complete the replacement of bulb. When replacing the bulb, be careful not to touch the focusing lens set. If there is dust on the lens set, blow the dust away with a blow ball. Moreover, when replacing the bulb, please take the bulb with a clean degreased cotton cloth to keep it clean. If the bulb has stains, please wipe it clean with a degreased cotton dipped in a little absolute alcohol to avoid affecting the transmittance.

9. Cautions

- A. The tungsten lamp will generate heat when working. The greater the power, the greater the heat. Therefore, it shall be cooled by use of a fan. During use, please do not cover the lamp chamber, and do not block the air inlet and outlet, so as to avoid affecting the heat dissipation.
- B. During use, if the energy is sufficient, please try to reduce the current usage. The too high current will severely affect the service life of the bulb, especially after the current exceeds 10A. Another way to save the life is not to switch it repeatedly.
- C. Please do not open the light source chamber, or touch or replace the bulb during use or after use under the condition that the light source chamber is still hot, so as to avoid burn.
- D. There is mains supply voltage between the 4 and 5 of the output socket on the rear panel, so please be careful of electric shock.
- E. Before connecting the power supply, be sure to adjust the current adjustment

knob to the end counterclockwise to minimize the output current.

- F. Protective grounding terminal: be sure to connect the large ground wire here to protect the safety of equipment and operating user.

10. Product Maintenance

In case of product fault, please consult our Company by phone calls. If the onsite troubleshooting fails, you can send the product back to our Company, and fax the fault and problem to the After-sale Service Department of our Company, then we will provide you with the one-year free repair services.

Notes:

When sending the instrument back for repair, you are suggested to use the original packing box of the instrument, and remove the bulb and replace it with the fixing bar, otherwise damage may occur during transportation, and the so caused loss will be borne by yourself.

Warning: the below conditions are non-warranty contents. If it is necessary to repair, you shall pay the corresponding expenses:

- A. Manual damage or damage by improper use;
- B. The product is damaged because the client repairs it voluntarily or entrusts it to others for repair without obtaining approval of our Company;
- C. The product is beyond the one-year warranty period from the date when the user receives the product.

11. Accessories

- 1 piece of 10A/250V power cord
- 1 piece of 5-pin-5-hole aviation cable
- 2 pieces of 6A fuse