

# 操作手册

## Operation Manual

### 掺铒光纤放大器模块

*Erbium-doped Fiber Amplifier Module*



请妥善保管本手册，操作前请详细阅读本手册，并遵守本手册的安全使用程序

Keep this manual, read and follow the instructions before your safe operation

## ■ Warnings and precautions for safe operation

- Equipment operators must strictly abide by relevant safety regulations and preventive measures
- The operator needs to check the equipment regularly and ensure that all relevant personnel comply with safety regulations
- Since the laser will cause damage to the eyes and skin, please avoid the laser entering the eyes or irradiating the skin
- Please note that the laser can cause damage to the retina and conjunctiva
- Do not touch the fiber end face directly with your hands, so as not to enter the dust and affect the product characteristics
- Please keep the equipment away from high temperature and high pressure humid environment

To prevent the equipment from being damaged by static electricity,  
Please take appropriate defensive measures when touching the equipment!

Laser can damage some electronic equipment,  
Laser will accelerate the aging of certain materials,  
Laser radiation can cause harm to the human body and certain sensitive substances!



## ■ Product description and EDFA introduction

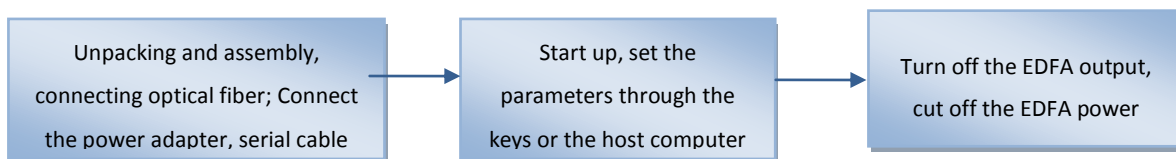
Our erbium-doped fiber amplifier (EDFA) is a series of products dedicated to laser signal amplification in optical fibers. It has the advantages of high gain and low noise. It supports software control of the host computer, and is compact and easy to integrate. It can also provide desktop or Rack-type packaging. It can be widely used in fields such as optical communication, fiber laser, fiber sensing, teaching and scientific research.

Users should choose the EDFA model with appropriate parameters according to their own needs to achieve the best optical signal amplification effect. The company can also provide customized EDFA products for the specific needs of customers. For specific product parameters, please refer to the product manual.

## ■ Standard accessories

1. 1 power adapter
2. 1 USB-232 serial port signal line
3. 1 copy of product operation manual
4. 1 copy of product test sheet

## ■ Operation process and steps



### **Step 1: Unpacking and assembly**

Please check whether the accessories are complete before assembling.

### **Step 2: Connect the power supply and optical fiber jumper**

Turn on the power. Connect the signal light to the input end of the amplifier through the fiber jumper.

### **Step 3: Turn on the amplifier**

Turn on the amplifier power Active switch, note: At this time, the operating current and gain values are the last shutdown when the host computer sets the parameters, if you need to adjust, you can modify it by pressing the key. Set the appropriate power or pump after the current is applied, the laser output is activated by the key switch and start to use. Note that it is strictly prohibited to plug and unplug the light fiber joints.

### **Step 4: Shut down**

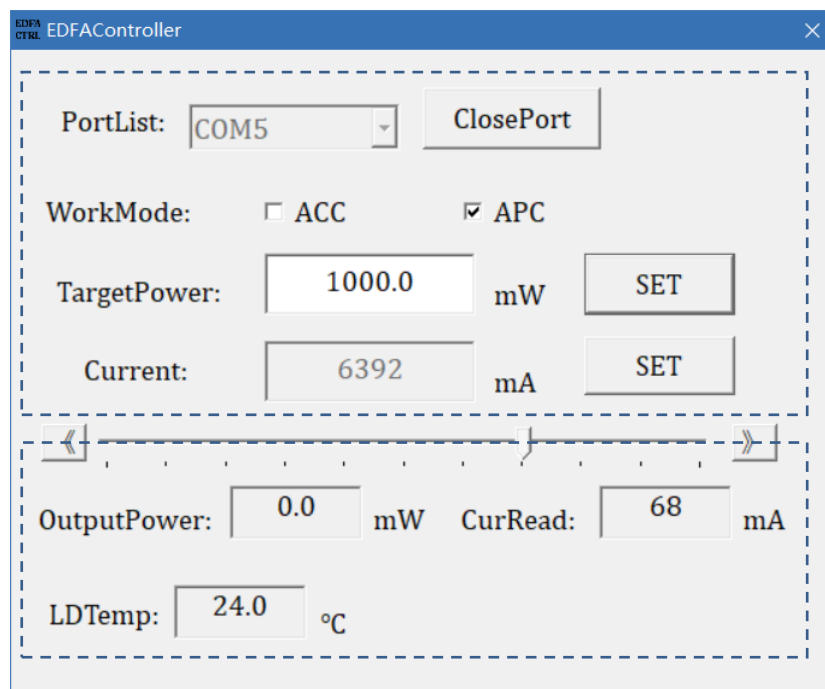
After use, turn off the Active power switch and disconnect the power cord.

## ■ Description of working mode and control interface

1. The front panel is as shown in the figure below, followed by input and output optical fiber, laser output Active switch, host computer communication interface (DB 9), power cord (DC 5V).



2. The upper computer software displays the following information: working mode, output signal optical power, pump laser current, temperature monitoring status. After starting the host computer software, first select the correct serial port number in the serial port sequence PortList, and click the OpenPort button to open the serial port. Note that the computer needs to install the USB-232 serial port driver first.



Control

Display area

3. This optical fiber amplifier standard model supports two working modes: automatic current control mode (ACC mode) and automatic power control mode (APC mode). You can switch between these two working modes through the WorkMode option. Please turn off Active before switching. switch. (\* PA type amplifier only supports ACC mode).

4. In ACC mode, enter the pump current value in the Current window and click the SET button, or directly drag the left and right sliders to set the pump current value; in APC mode, enter the target optical power value in the TargetPower window and click the SET button;
5. When the Active key switch is on, after the setting takes effect, OutputPower in the parameter monitoring area displays the current actual output optical power, CurRead displays the current pump current; LDTemp displays the internal temperature.
6. When shutting down, click ClosePort to close the serial port, and then close the software. The parameters set by the user have the memory function of shutdown and power failure.

## ■ Operation precautions and maintenance

1. When starting, make sure that the Active switch is turned off before connecting to the power source. When shutting down, first turn off the Active switch and then disconnect the power; never cut off the power directly when the amplifier is working.
2. Take care to avoid contamination of the fiber connector with dust to prevent burning the end face of the fiber connector. Before connecting the optical fiber connector, wipe it clean with dust-free lens cleaning paper, and observe it with an optical fiber end face detector to confirm that it is cleaned before connecting through the flange, otherwise the end face of the optical fiber connector may be burnt when the laser is turned on. When connecting flanges, ensure that there is no light operation, and cover the optical fiber dust cap when not in use.
3. Please pay attention to moisture and keep it in a dry place.

## ■ Quality assurance and after-sales

### 1. Product quality guarantee period

From the date of purchase, if the product has quality problems (non-human) within one year, the customer can request the manufacturer to replace the parts or the whole machine free of charge; the manufacturer will provide paid maintenance services after one year.

### 2. Product warranty coverage

During the free warranty period, free repair or replacement services will be provided for failures caused by product quality. During the warranty period, the company reserves the right not to provide free maintenance in the following situations:

- 1) The product was damaged or damaged due to natural factors or environmental influences (electric shock, dust)
- 2) The product is damaged due to the user's irregular operation
- 3) The product has obvious man-made damage
- 4) The product has been disassembled, modified or repaired without the authorization of the company
- 5) The warranty label sticker of the light source housing is altered or incomplete
- 6) The product is damaged or lost during transportation