



# **Erbium Doped Fiber Amplifier**

**- CW EYDFA**

**User Manual V 1.0**

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## Safety Instructions



You may find this symbol affixed to the product and in this document. This symbol warns of an infrared laser radiation from the product which is classified as **CLASS 4 LASER PRODUCT**. Viewing the laser output with certain optical instruments (for example, eye loupes, magnifiers and microscopes) within distance of 100mm may pose an eye hazard.



You may find this symbol affixed to the product and in this document. This symbol indicates that the static electricity buildup on the human body and other objects can degrade the product and cause failures. **THE PRODUCT MUST BE PROTECTED FROM ELECTROSTATIC DISCHARGE.**

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You are strongly advised to read the following safety instructions before operating this equipment.

- **Read These Instructions First** - All safety and operating instructions should be carefully read before use.
- **Follow Instructions and Warning** - Follow all operating instructions. Pay attention to all warnings and cautions in the manual, as well as those that are affixed to this equipment.
- **Environmental Condition** - The working environment should be dry, clean, and ventilated. Do not put this equipment where it could be at risk of contact with water.
- **Moisture** - Make sure this equipment is protected from moisture.
- **EMC Requirements** - Do not expose the equipment in a strong electromagnetic field. Use correctly shield cables of good quality for all external connections, except the power source, when installing this equipment.
- **Ventilation** - Do not block or cover outlets in this equipment if any. These are designed for ventilation and protection from overheating. **Maximum operating ambient temperature is 131 °F (55).**
- **Safe Operation For The Product** - Always connect a fiber to the output of the device BEFORE power is applied. Power should never be applied without an attached fiber.
- **Power Supply** - This equipment must be DC-powered as below:
  - **DC input +12V/GND**
  - **Power consumption - Maximum 35W**
- **Cleaning** - Use a damp cloth for cleaning.
- **Enclose** - Do not open the enclose of this equipment and attempt maintenance unless instructed to do so in the manual. Turn to qualified technicians for help.
- **Labels** - Do not remove any warning labels.
- **Fiber End Face Protection** - Keep the fiber ends from any contamination with caps. Use lint-free swabs to clean the end face.

## 1 Introduction

This manual describes the operation guidelines for modular erbium doped fiber amplifiers. The safety and operating instructions must be carefully read to ensure the product be well installed and operated.

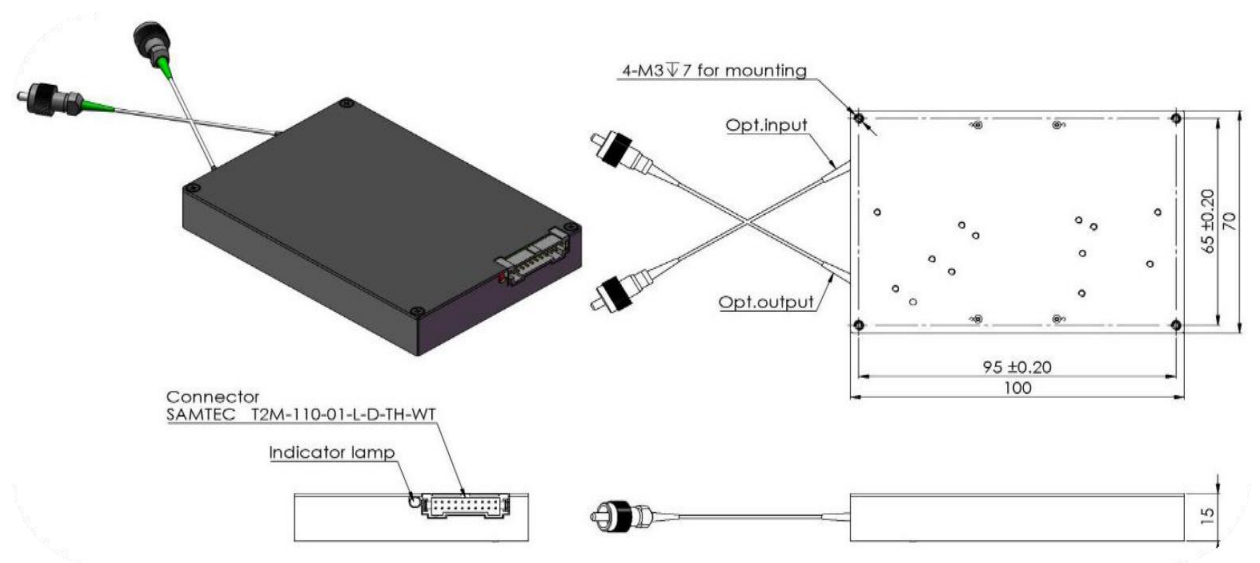
### 1.1 Product Description

This amplifier is a high power polarization maintaining EYDFA.

It is good for signal amplification at C band 1540 - 1560nm in a compact package.

### 1.2 Mechanical Structure

Dimensions (L\*W\*H): 100\*70\*15 mm



### 1.3 Interface and PIN Assignments

Interface	Specifications		
Fiber	Input	1000±20mm 900um SM1550	FC/APC
	Output	1000±20mm 900um SM1550	FC/APC
Power Supply	DC +12V	2.5 mm Red wire	
	GND	2.5 mm Black wire	
Communication	RS232	SAMTEC S2SD-10-24-L-02.75-SR connector	

### 1.3.1 PIN Assignment

PIN	Definition	Level	Description
1 ~ 8	+12V	POWER	Module power supply
9	ALARM	LVTTL	Module alarm output. High level alarm.
10	EMESHUT	LVTTL	Emergency pump shutdown input. Low level shutdown, internal pull-up.
11	RX (Module Input)	RS_232	Module serial input
12	TX (Module output)	RS_232	Module serial output
13 ~ 20	GND	GND	Module power GND

### 1.3.2 Working Environment

Parameter	Min.	Max.	Unit
Operating Temperature Range	-10	55	°C
Relative Humidity (@ 25°C)	5	90	%

## 2 Installation and Debugging

### 2.1 Parts and Accessories

Please check the parts and accessories first before use.

Item	Quantity
EDFA Module	1 PC
User Manual	1 PC
Test Report	1 PC
Serial Interface Cable	1 PC
Control Software	1 PC
Certificate of approval	1 PC

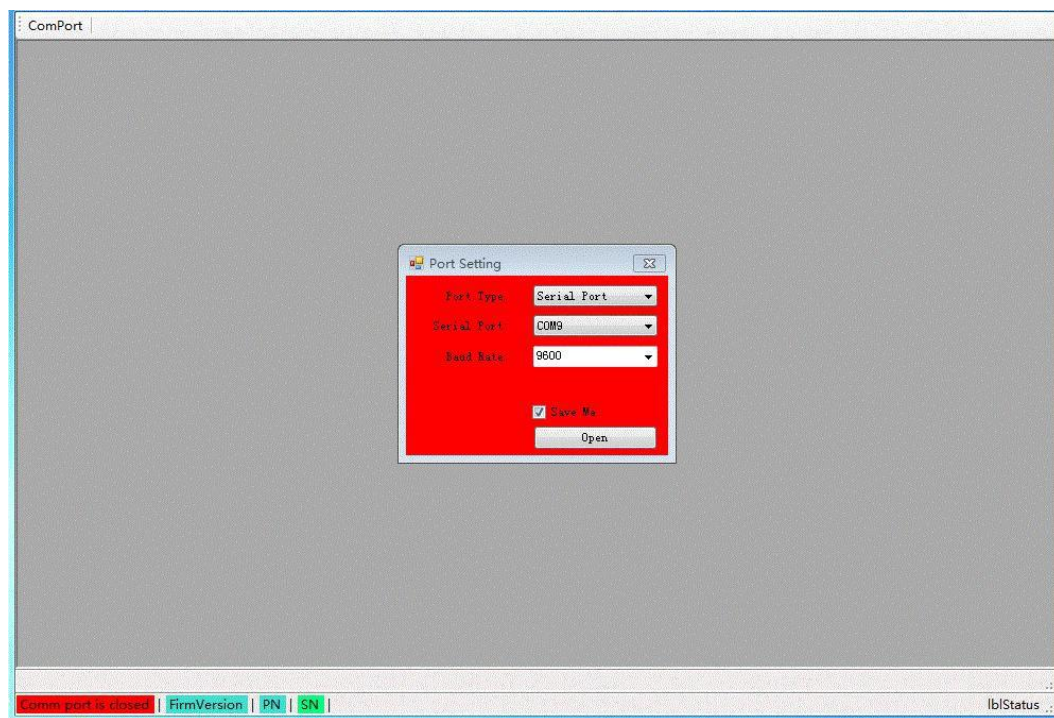
### 2.2 Debugging

#### 2.2.1 Hardware Debugging

1. Unpack and place the module **on a heat sink**.
2. Connect the module and the master computer via RS232 serial interface cable.
3. Remove the cap, connect the module input port to the signal transmitter, and output to the receiver. Input light to the module, ensuring that the wavelength and power of the signal is within the specified range.
4. After the module is powered on, there will be high-power infrared laser output at the output port. Make sure that the module output port is connected to the receiver to avoid damage to fiber end face and injury to person around.
5. The module is powered by **DC+12V/GND** supply. After powering on, you can read and set the module parameters via the control software.

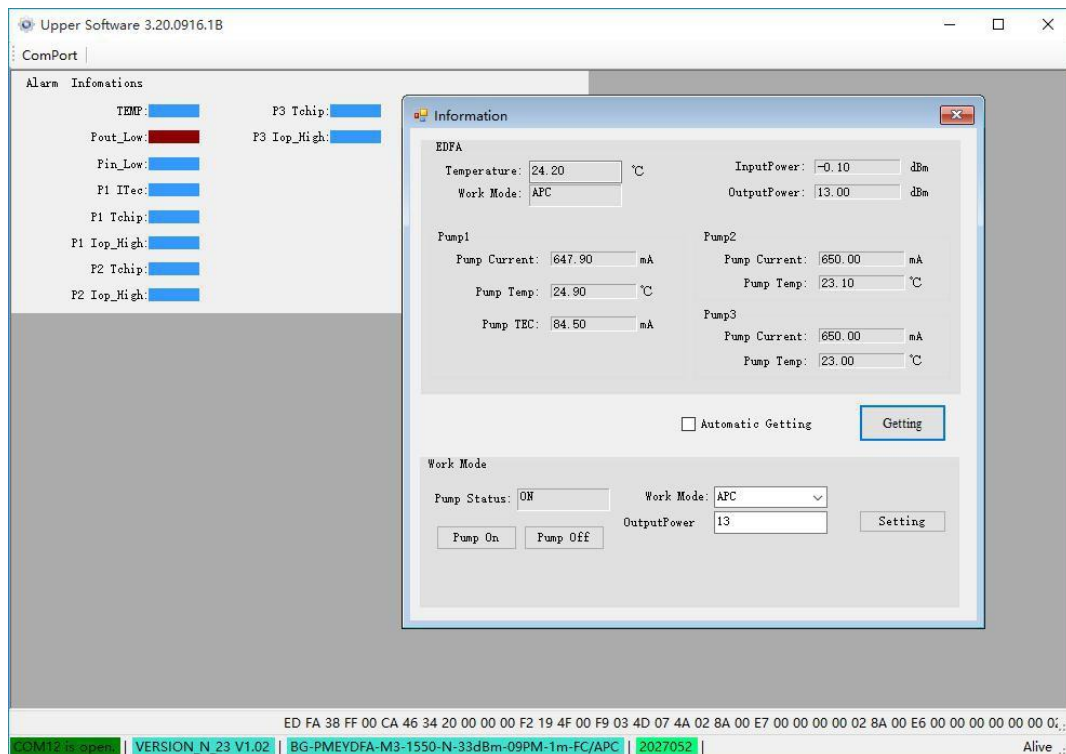
## 2.2.2 Software Debugging

1. Copy the control software “EDFAUpperSoft” to the PC, and follow 1-3 steps in 2.2.1.
2. Double-click the software, the following window pops up, the software will automatically identify the serial port. If not, please go to the “Device Manager” in the “Control Panel” of the master PC. If not, please check if the USB to Male DSUB9 serial port driver is installed.
3. **Baud rate 9600**. Click “Open” to enter the parameter setting interface.



4. Click “Getting” to read the current working status of the module, such as Working Mode, Pump Temperature, Pump Current, Input and Output Power. To set the working mode and related parameters, select the right working mode and enter the values in the “Work Mode” below.

When on ACC mode, enter the pump current to adjust the gain, then click “Setting”, and the computer prompts that the setting is successful. Then click "Getting" to get the working status of the module. Check “Automatic Getting” to automatically read parameters.



5. For other alarm threshold, factory set values are suggested.

### 3 After-sales Service

1. If any failure occurs, please contact your local dealer or call our customer service immediately.
2. On-site maintenance shall be carried out by professional technicians to avoid further damage to the equipment.