

1550nm Erbium-Doped Fiber Amplifier

HF300-3815 Series

User's Manual

1. Overview

- Using mechanical and fan for high efficient heat dissipation and pump laser install in the aluminium box, achieve the perfect and stable circuit of optic power output and controlling circuit of thermoelectric refrigeration device of pump laser assure the best quality for user and stable working for a long time.
- The output optical power can be adjusted through the button in the panel or the software, the extend range is 0.5dBm, and minus range is 4dBm.
- Standard RJ 45 port for remote control, we can provide output contract and web manager for choice, and also plug-in SNMP hardware can be reserved for update.
- The RS-232 standard connector makes it is possible to manage on line and monitor in other place.
- Adopts America JDSU, Bookham and Japan FERETEC Pump laser, and the Erbium-Doped fiber is America OFS.
- Front panel VFD or LED displays the working condition of the machine and the fault warning.
- Dual power and hot plug power supply for choice and it can work with the voltage from 90V to 265V or -48V DC.
- The max output power is 27dBm(500mW).

2. Installation

2.1 Before Installation

2.1.1 Please check if there is damage in outside of the machine.

2.1.2 Please check the spare part and the certification are complete or not, if not, please contact the seller.

2.2 Installation

2.2.1 Please keep at least 1.75 inches(4.5cm) space for cooling when the machine installed with other machines.

2.2.2 Please check power supply socket and the grounding of the power supply, the grounding impedance should $\leq 4\Omega$, 220V power supply should be with three cables and the grounding cable should be in the middle, Unfitted grounding will damage the device or

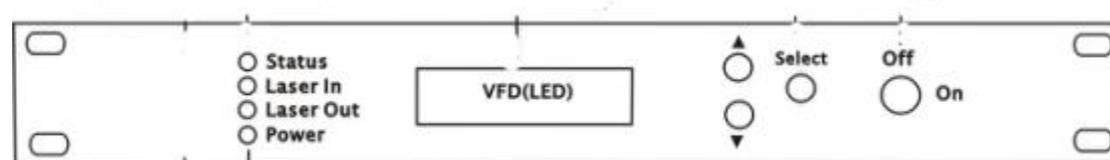
influence the signal quality.

2.2.3 Please make sure the power supply switch to OFF in the rear panel.

2.2.4 Please confirm the fiber port is clean before connecting the fiber and fiber contact have many attended mode.We provide FC/APC or SC/APC fiber contact for choice.

3. Set and Operation

3.1 Front Panel



3.1.1 VFD (LED) Display

The screen will show you the working parameters of this machine including the model of the amplifier, mechanical number and the telephone number on the first row, the working conditions on the next row. After connecting the power, please turn on the power in the back of the board, it says the power supply is all right when the board shows: Ready, key off. Then turn on the key in the board, after several seconds, the digital will show you the type of the machine and the laser power will turn on automatically. If the machine is all right, the condition red guide light (Laser) will go out.

3.1.2 Status Indication

- Light off: Normal

3.1.3 Laser In Indication

- Red light On: No light power input
- Red light Off: Power input

3.1.4 Laser Out Indication

- Light On: Normal output
- Red light: No power output

3.1.5 Power Indication

- Green light on: Dual power supply
- Red light on: Single power supply

3.1.6 Function Switch

- Press the button to show the working condition in turn.

3.1.6.1 Model

- Display the machine model NHNFA50U-B.

3.1.6.2 Input Power

- Display the input power of this machine (dB) .

3.1.6.3 Output Power

- Display the output power of this machine (dB) .

3.1.6.4 Bias Current

The bias current of the laser is the main working parameter of the laser. If there are more than one pump laser, the board will display the working current of BIAS 1, BIAS2, BIAS3, BIAS4 in turn. The red light will shine to warn when the parameter comes out of the fixed value.

3.1.6.5 Temp

The laser works between the temperature 20°C and 30°C. If there are more than one pump laser, the board will display the working temperature of Temp 1, Temp2, Temp3, Temp4 in turn. The red light will shine to warn when the parameter comes out of the fixed value.

3.1.6.6 TEC CURR Current

showing the working current(mA) of heating or cooling when the standard temp is 25°C in order to protect the laser.If the working temp is less than or greater than 25°C,thermoelectric refrigeration device is automatically placed in a heating or cooling state ,like the air-condition.If there are more than one pump laser, the board will display the working current of HEATING1、 HEATING2 、 HEATING3、 HEATING4 in turn.

3.1.6.7 Working Mode Auto

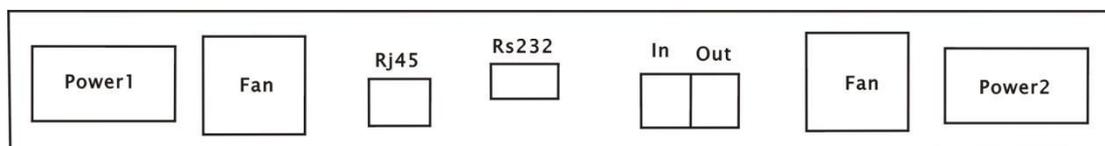
- Display the actual voltage,product number,production date.

3.1.6.8 Setting Info

Press the function button to show the output power setting and the blinking cursor, press ▼ or ▲ to change suitable optical power,then is successful when you enter key

code:1234.

3.2 Rear Panel



3.2.1 Output

- Optical signal output

3.2.2 Input

- Use in 1550nm signal input

3.2.3 RS232

- Network management for local computers

3.2.4 RJ45

- SNMP, for remote computer network management

3.2.5 Power Switch

- ON: Turn on the power
- OFF: Turn off the power

3.2.6 Power Socket

- AC220V and DC-48V

4、 Notice

4.1 The main component of the amplifier laser is sensitive to the static electricity, so please keep the amplifier away from the static electricity. Furthermore, please keep it away from caustic things.

4.2 The wavelength of the fiber amplifier is 1550nm and the max output power is near (26dBm)400mW Before the installation or putting a protection cover, please don't turn on the machine to avoid the laser light to burn out the pigtail and hurt people eyes.

4.3 Please don't block up the heating dispersion hole and keep the machine aired.

4.4 Please use absolute alcohol to wash the all the connects and the test point of optical

meter,don't use the medical alcohol.

4.5 Please use the 24dBm、25dBm、26dBm PLC splitter for the output to prevent pigtail hurt by the high power amplifier.

4.6 Don't test EDFA with pigtail again and again, it will hurt the fiber connector and make the factual power become smaller.

4.7 Light amplifier have a small influence on CTB and CSC,mainly influence C/N.After increasing the value of input power,then C/N will be higher,if reduce the value of input power,C/N will be lower.So input power suggest to reach 4dBm,also the 1.5dBm of optical switch loss figure in.

5. Common Fault

5.1 Display

- Power supply light STATUS: green
- LED light Laser: red
- VFD display: NO LASER INPUT
- Reason: NO 1550nm optical input
- Solution: Input 1550nm optical signal

5.2 In fiber amplifier,the panel display is synchronized with the output.And if it displays the right optical power, but the optical power is not enough by test meter,as following possibilities:

5.2.1 Don't use domestic optical meter to test EDFA,because the domestic optical meter can't test fiber amplifier with high power.So should use imported optical meter.

5.2.2 The output flange is damaged.

5.2.3 Plug the pigtail in the machine working time, let the pigtail be damaged,cause the output power to decrease.you can splice the output connector.

5.2.4 Use a bad quality pigtail with a long fiber core that scrape the fiber amplifier connector, is normal in the first time testing ,and optical power is smaller in the second time,splicing the output connector is right.

5.2.5 The wavelength of the optical is not right and cause output power to decrease,so the

panel display is too small.

5.2.6 Input optical power is not enough.and cause input power to decrease,so the panel display is too small.

6. Warranty

6.1 NHNFA50U-B Series optical amplifiers are covered by ONE YEAR LIMITED WARRANTY, which starts from the initial date of your purchase. We provide its customer whole-life technical supports.

6.2 Please don't unfold the machine or remove any parts of the machine under warranty.

6.3 The unit fails to perform because of user faults,like the accidental and improper using,storage or assembly.

6.4 Please send the product to us for repairing if product do not reach the quality requirement.

6.5 If warranty is expired, and you need require,the user has to pay for the material.