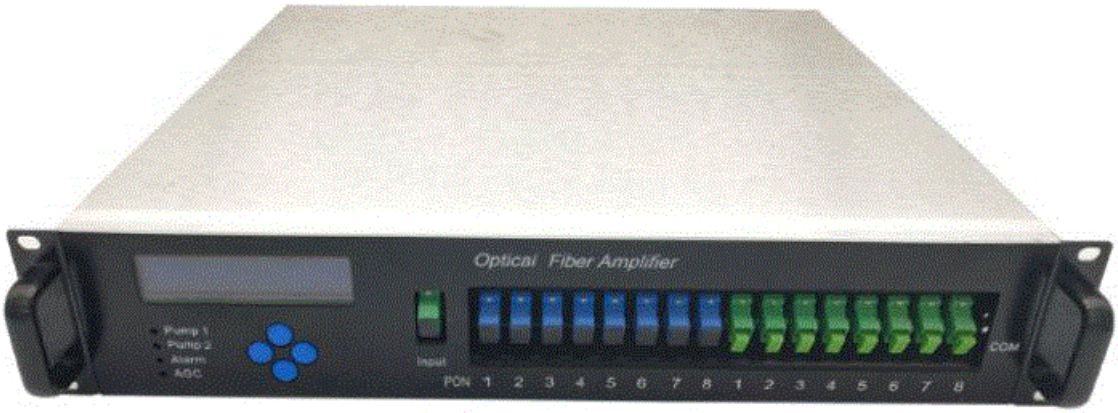
Baudcom BD-EDFA-3508 High Power EDFA for FTTH-FTTB User Manual

Contents

Baudcom BD-EDFA-3508 High Power EDFA for FTTH-FTTB



Product Information

Product Name: High Power EDFA for FTTH /FTTB
Product Model: 1550nm EDFA
Power Supply: 48VDC/110VAC/220VAC
Manufacturer: SHANGHAI BAUDCOM COMMUNICATION DEVICE CO.,LTD
Website: http://www.baudcom.com.cn

Email: info@baudcom.com.cn
Telephone: +86 21 37709251

Product Usage Instructions

- Before installing and using this product, please read the safety precautions below carefully to avoid any security breaches or loss.
- Avoid looking directly at the device connector end while it is in operation to prevent burning of eyes and skin, as the laser radiation is not visible.
- Avoid excessive vibration and impact to prevent damage to the equipment, especially the precision optics.
- Handle the equipment containing electrostatic sensitive devices with care and ensure proper grounding and normal power supply.
- Ensure that the input and output end faces of the optic fiber are clean before use. Cleaning the optical fiber end face or inserting patch cords should be done with the input light turned off to prevent damage to the output end face and decrease in output power.
- When plugging optical ports, follow the correct order to ensure proper connection.
- Do not disassemble the module to avoid irreparable damage.

Application

- Analog CATV Transmission
- FTTH Optical Access
- Optical Distribution
- Free Space Optical
- R&D and Training

Features

- High Stability And Reliability with MTTF150000 Hours
- Redundancy Hot Swap power module: 110/220VAC and 48VDC can plug Mix
- Perfect Network InterfaceEthernet
- Intelligent Temperature Control System: using a dedicated Temperature control chip which makes cooling and power loss reduce 30% than competitors
- Integrated 1310nm/1490nm/1550nm WDM (Optional)
- OEM, Module is available

Description
This amplifier employs double cladding Erbium Ytterbium co-doped fiber and a high power multimode pump. It has a 10 times conversion efficiency higher than single mode general technology, resulting in lower cost, more compact size, and lower power consumption. It is particularly suitable for FTTH or FTTB or other large distribution system applications.

The amplifier also features an intelligent temperature control system. It uses a special temperature control circuit to reduce heat radiating and power consumption by 30%. The professional air flow design ensures the best temperature stability. The powerful fan starts when the case temperature is over 45 and stops when the temperature is under 40, ensuring system thermal stability and prolonging the fan's lifespan.

High Power EDFA for FTTH / FTTB
1550nm EDFA
(power supply:48VDC/110VAC/220VAC)

Operating Manual
High power amplifier
SHANGHAI BAUDCOM COMMUNICATION DEVICE CO.,LTD

Using Safety Precautions

Before installing and using this product, please read the following carefully. The Company does not assume any responsibility for any loss due to security breaches caused.
Lasers and erbium-doped fiber amplifier output power laser radiation is not visible, can not look directly at the device connector end when it works to avoid burning eyes and skin.
Equipment includes precision optics, in order to avoid damage to the severe impact of its constitution, please avoid excessive vibration and impact. Pigtail easily sacrificed, so be careful.
Equipment containing electrostatic sensitive devices, handle it carefully and make sure the ground is good, the power supply is normal.

Attention of optic fiber end face:

1. Before using, please be sure to keep the input and output end face of the optic fiber clean, especially if the output end face is dirt, then it is easy to make the output end face burned and the output power will be decreasing. When cleaning the optical fiber end face or insert patch cords, please turn off the input light first.
2. The correct order of plugging optical port is:
   Inserting: first insert optical patch cord of output port, then insert optical patch cord of input port.
   Pulling out: first pull optical patch cord of input port, then pull optical patch cord of output port.
3. This kind amplifier is a high precision and high stability product, in order to have high stability output power, please use optical patch cord with good quality and which connectors are match with the device to connect with the output port. In principle, the optical patch cord should be as short as possible, and do not let it voluntary

movement.

If there are any questions, please contact our company. Do not disassemble the module, otherwise it will cause irreparable damage

Application

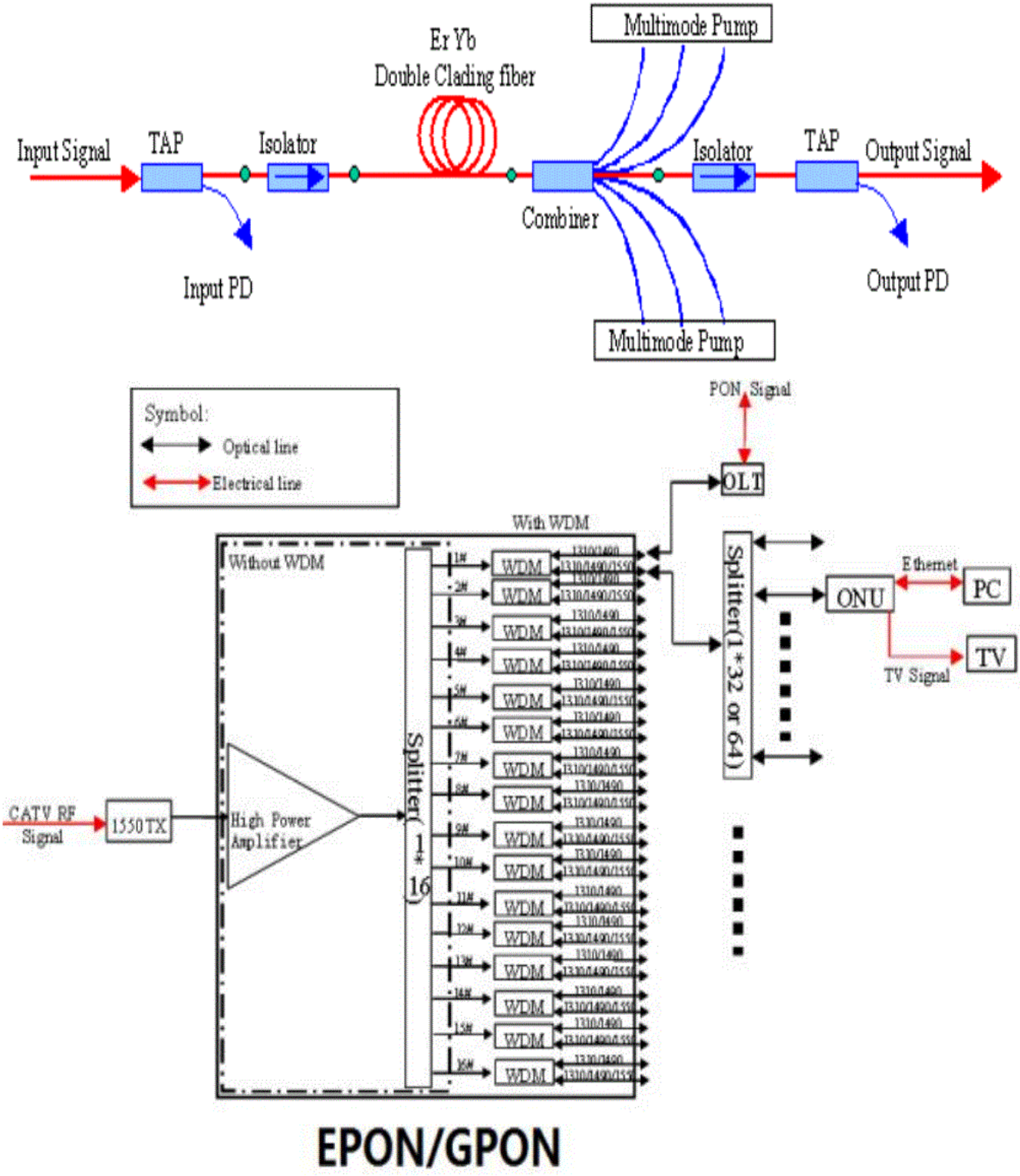
- Analog CATV Transmission
- FTTH Optical Access
- Optical Distribution
- Free Space Optical
- R&D and Training

Feature

- High Power Up to 2W total 1 Unit for 2000 4000 optical node
- Low Noise Figure Below 5.5dB (+5dBm input)
- Er Yb co-doped DCF Amplify Technology Patent Pump Dump Technology
- Low CSO: -70dBc
- 23dBm×N 20dBm×N or 17dBm×N output is optional
- Controllability and maneuverability: Dual CPU to deal Control loop and Communication separately
- High Stability And Reliability MTTF 150000 Hours
- Redundancy Hot Swap power module: 110/220VAC and 48VDC can plug Mix
- Perfect Network Interface Ethernet
- Intelligent Temperature Control System: using a dedicated Temperature control chip which make cooling and power loss reduce 30% than competitors
- Integrated 1310nm 1490nm 1550nm WDM (Optional)
- OEM, Module is available

Description
The product is high output power C-Band Er-Yb co-doped double cladding optical fiber amplifier.
The key components of the product are high reliability multimode PUMP laser and the double cladding optical fiber. A proprietary ATC (Automatic Temperature Control) and APC (Automatic Power Control) circuit insures the high stability and reliability output power, the unique optical circuit design ensures the excellent optical performance. The high stability and high precision MPU system to ensure the control, adjustment and display are intelligent and easy.
This amplifier employ double cladding Erbium Ytterbium co-doped fiber, and employ the high power multimode pump, with a 10 times Conversion efficiency higher than the single mode general technology, and therefore have a lower relative cost and more compact size and lower power consumption, in particular, for FTTH or FTTB or other large distribution system applications.
Employ intelligent temperature control system: (1)Adopt special temperature control circuit heat radiating and power consumption can be reduced 30%, (2)The professional air flow design can also ensure the best temperature stability, at the same time powerful fan will start when the case temperature is over 45 , meanwhile it will stop as the temperature is under ℃ 40℃.The technology makes sure the thermal stability of system and fan’s long life.
Intelligent network management system. Perfectly network interface: Ethernet network and the open network management interface ensure the connectivity with all other network management system.
These products are widely used in CATV transmission system and the high power distributing system FTTH requirement. It can be used for CATV analog/digital signal distribution, or match with PON system to construction the triple network integration. (Triple wavelength WDM is optional)

Block Diagram



Optical characteristics

Parameter	Symbol	MIN	TYP	MAX	UNITS
Operating Wavelength	λc	1540	1550	1565	nm
Saturated Output Power *Note1*	Po	13	——	33	dBm
Input Power	Pi	0	——	+10	dBm
Gain	G	——	——	30	dB
Noise Figure *Note2*	NF	——	——	5.5	dB
Output Power Stability	ΔPo	——	±0.05	±0.2	dB
Input Isolator	ISOi	30	——-	——	dB
Output Isolator	ISOo	30	——-	——	dB
Input Pump Leakage	PLi	——-	——-	-35	dBm
Output Pump Leakage	PLo	——-	——-	-45	dBm
Return Loss	RL	——-	——-	-45	dB
Polarization Dependent Gain	PDG	——	——-	0.3	dB
Polarization Mode Dispersion	PMD	——	——-	0.5	ps

Note 1 Optional
Note 2 Tested at +5dBm Input

Environmental characteristics

Parameter	Symbol	MIN	TYP	MAX	UNITS
Operating Temperature	Tw	-5	——	60	℃
Storage Temperature	Ts	-40	——	80	℃
Humidity Note	——	10	——	90	%

Note: No Condensate
Electrical Characteristics

Parameter	Symbol	MIN	TYP	MAX	UNITS
Power Supply 1	Vps	170		264	VAC
Power consumption	P	——	——	50	W

1: 110VAC 220VAC and -48VDC is optional, and duplicate supply is optional.

Starting up

Before starting up, Please check the input voltage to the rated input voltage, grounding is good.
The product adopts independent 220 VAC power supply.

Equipment Powered Instructions

Special Note:

1. The power module must be properly inserted in the device, so it can be supplied power.
2. Do not insert the charged power module into the device directly.

LED/ Key Description

▲ key Upper button. Press this button can check each parameter of products from bottom to top.

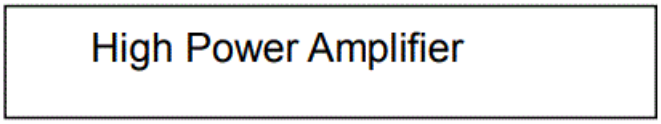
▼ key Down button. Press this button can check each parameter of products from top to bottom.

► ◄ key Menu button. Press it can enter the menu.

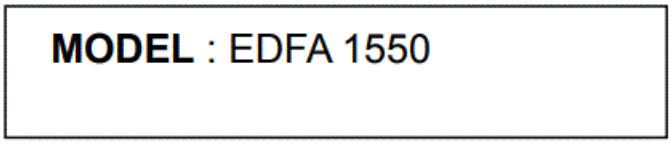
key Return button. Press it can return to the standby screen

Display Menu Description

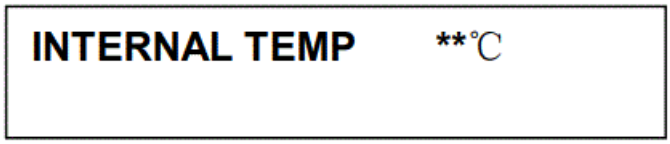
1. Display device start up process when power on



2. Press the Menu button to display products model

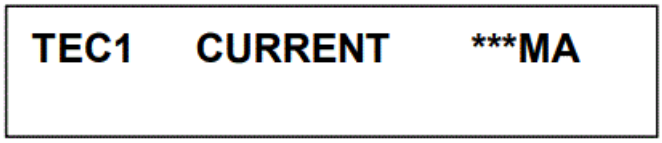


3. Press the down button to display internal temperature



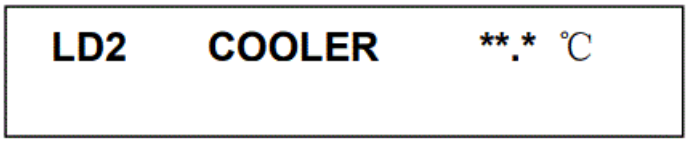
4. Press the down button to display the current of pump 1

5. Press the down key to display the cooling current of pump

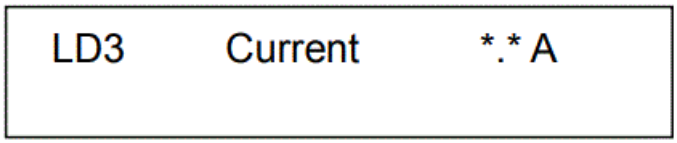


6. Press the down button to display the current of pump 2

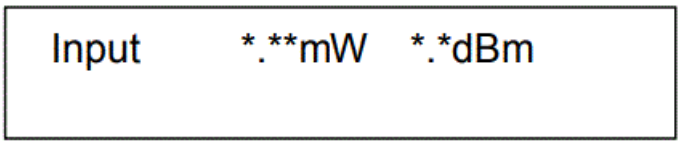
7. Press the down button to display the temperature of pump 2



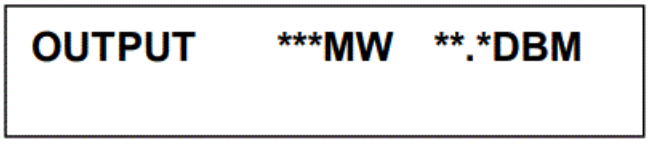
8. Press the down button to display the operating current of pump 3



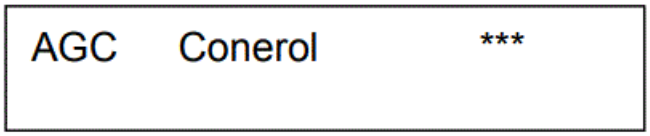
9. Press the down button to display the temperature of pump tube 3:



10. Press the down button to display input optical power:



11. Press the down button to display output optical power:



12. Press the down button to display working status:
    In this screen, press the Menu button to display “ON” opens AGC function . If a high-power pump is damage, the other pump will increase the pumping power automatically to maintain the stability of output power. Press the Return key to display “OFF”, this function is off.
13. Press the down button to display the status of the pump:

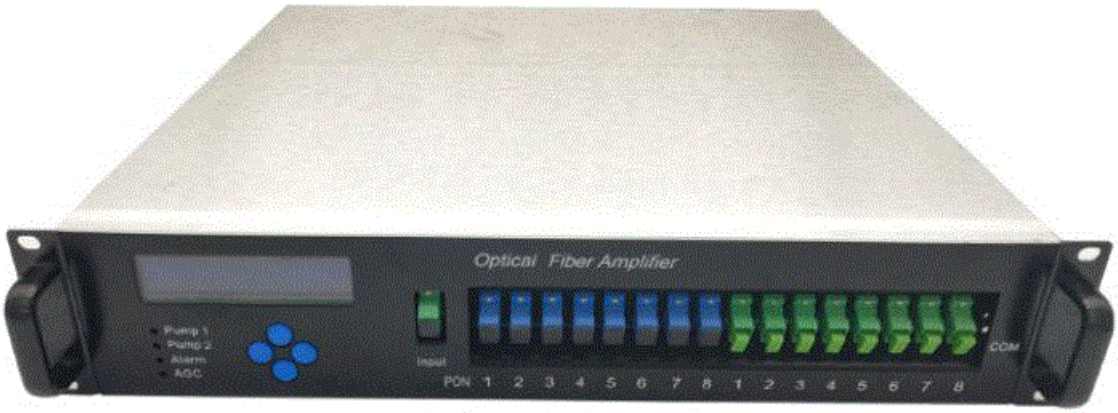
In this screen, press the Menu button to display “ON” pump working.
Press the Return key to display “OFF” pumped off.

Indicator

- Pump 1 Pump 1 indicator off is normal, pump 1 flashing is alarming.
- Pump 2 Pump 2 indicator off is normal, pump 2 flashing is alarming.
- Alarm Alarm Indicator: input and output light turns red when alarming.
- AGC When the AGC function is turned on the light turns green.

Interface

Front-Panel



Back-Panel

Connectors

	Description
Input	Optical input port
1~16	Optical output ports
RJ45	Ethernet control port
Power1/2	Power input 110/220V AC
Reset(optional)	Short press: reboot net control board Long press: reset all net parameter to default

Order Information

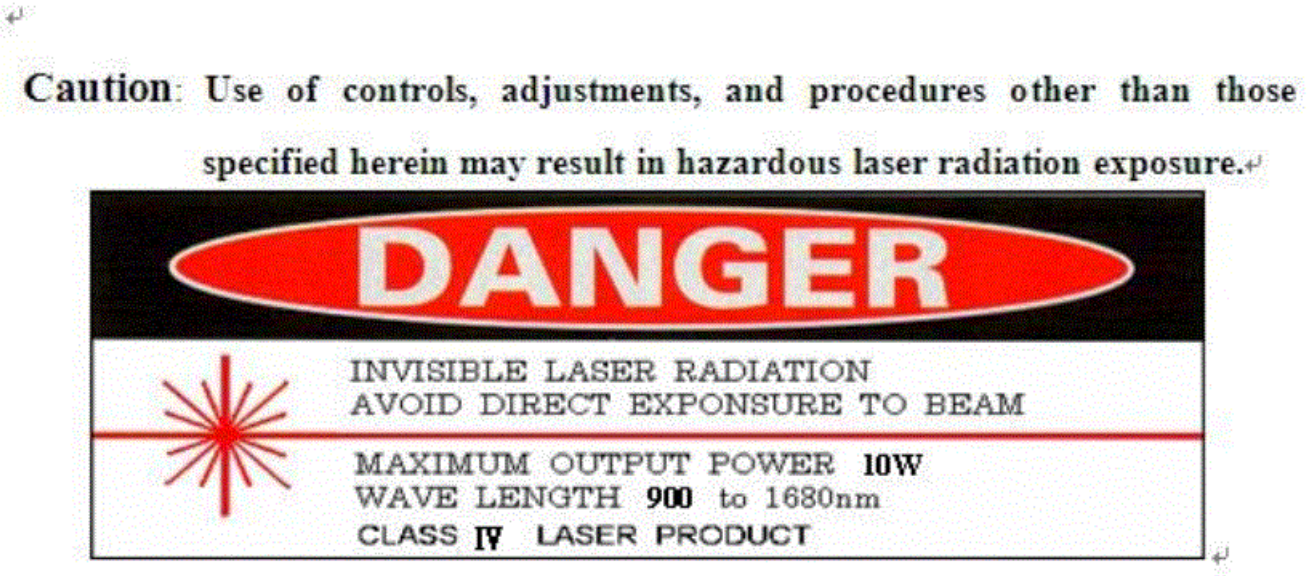
Category	Application	Input Power	—	Output Power	—	ports	Power supply1	Power supply2	Interface	Network Management
EDFA-1550	**1**	**X**		**20**		**64**	**2**	**4**	**2**	**0**
1U/ 2U/3U Rack Dual power supply	1: CATV 2: DCM 3.Telecom single channel 4:Telecom DWDM 5:Wide Band single Channel	1:0~+10dBm 2:+5~+15dBm 3:0~+10dBm 4:-8~+10dBm 5:-35dBm~-25dBm(Pre) 6:-25dBm~-10dBm(Online) 7:-10dBm~+6dBm (Booster) 9:Other		13:13dBm 24:24dBm		1:1 port 2:2 port 4:4 port 8:8 port 16:16 port 32:32 port 64:64 port	1 110VAC 2 220VAC 4 -48VDC	1 110VAC 2 220VAC 4 -48VDC 0: None	1:SC/UPC 2:SC/APC 3:FC/UPC 4:FC/APC 5:LC/UPC 6:LC/APC	0 None 1 SNMP

Note

1. EDFA-1550 for 1U rack Maxim ports number 16 w/ WDM or 32 w/o WDM
2. High End configure with SNMP Net management.
3. 2U and 3U rack maxim 64 port with WDM

Laser Safety Information
Class IV laser products.

9μm/125μm single-mode fiber pigtail with connector.
Wavelength=0.90~1.68μm
Maximum Power=10W



Documents / Resources

	Baudcom BD-EDFA-3508 High Power EDFA for FTTH-FTTB [pdf] User Manual BD-EDFA-3508 High Power EDFA for FTTH-FTTB, BD-EDFA-3508, High Power EDFA for FTTH-FTTB

References

- Home - Baudcom
- E1 converter,Fiber multiplexer,TDM over IP,SDH Multiplexer,Fiber media converter,SFP module,Baudcom