

1550nm High Power EYDFA

Model: HPA-4100 Series



Technical Specifications

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I. Products Overview

HPA4100 series 1550nm high power fiber amplifier adopts two-stage amplification, the first stage adopts low-noise EDFA, the second stage adopts high-power EYDFA, the total output optical power can reach 37dBm. It can replace several or dozens of EDFA, which can greatly reduce the cost of network building and maintenance and reduce the space of head-end. The device will play an increasingly important role in the process of continuous extension and expansion of optical fiber network. It provides a high stability but low cost solution for the triple-play and large area coverage of FTTH.

Optional dual fiber inputs, in fact, built-in with a set of complete optical switch system , which can be used as the backup of A and B optical path. When the main optical line fails or lower than the threshold value, the device will automatically switch to the standby optical line to ensure the continuous operating of the device. The product is mainly used in optical fiber ring network or redundant backup network, It is featured in short switching time ($< 8\text{ms}$), low loss ($< 0.8\text{dbm}$) , and can be forced manually switched.

The core components adopts the top brand pump laser and double cladding active fiber. The optimized optical circuit design and manufacturing process ensure the best optical performance. The perfect electronic controlled APC (automatic power control), ACC (automatic current control) and ATC (automatic temperature control) are adopted to ensure high stability and reliability of output

power, as well as excellent optical performance.

MPU (microprocessor) with high stability and precision is adopted in the system. The optimized thermal structure design , good ventilation and heat dissipation design ensure the long life and high reliability of the device. Based on the powerful network management function of TCP / IP protocol, network monitoring and head-end management can be carried out for the status of multiple node equipment through RJ45 network management interface, supporting multiple power supply redundancy configurations, which improved the practicability and reliability of the device.

II. Features

2.1 It adopts the top brand pump laser and double cladding active fiber.

2.2 Perfect APC, ACC and ATC electrical circuit design ensures low noise, high output and high reliability of the device in the whole operating band (1545 ~ 1565nm).

2.3 It has the function of automatic protection of low input or no input. When the input optical power is lower than the set value, the laser will automatically shut down to protect the operating safety of the device.

2.4 Output adjustable, adjustment range : 0~-4dBm.

2.5 RF test in the front panel(optional).

2.6 The switching time of optical switch is short and the loss is small. It has the functions of automatic switching and forced manual switching.

2.7 Built- in dual power supply, automatically switched and hot plug supported.

2.8 The operating parameters of the whole machine are controlled by microprocessor, and the LCD status display on the front panel has many functions such as laser status monitoring, parameter display, fault alarm, network management, etc.; once the operating parameters of the laser deviate from the allowed range set by the software, the system will alarm promptly.

2.9 Standard RJ45 interface is provided, supporting SNMP and WEB remote network management.

III. Main Technical Index

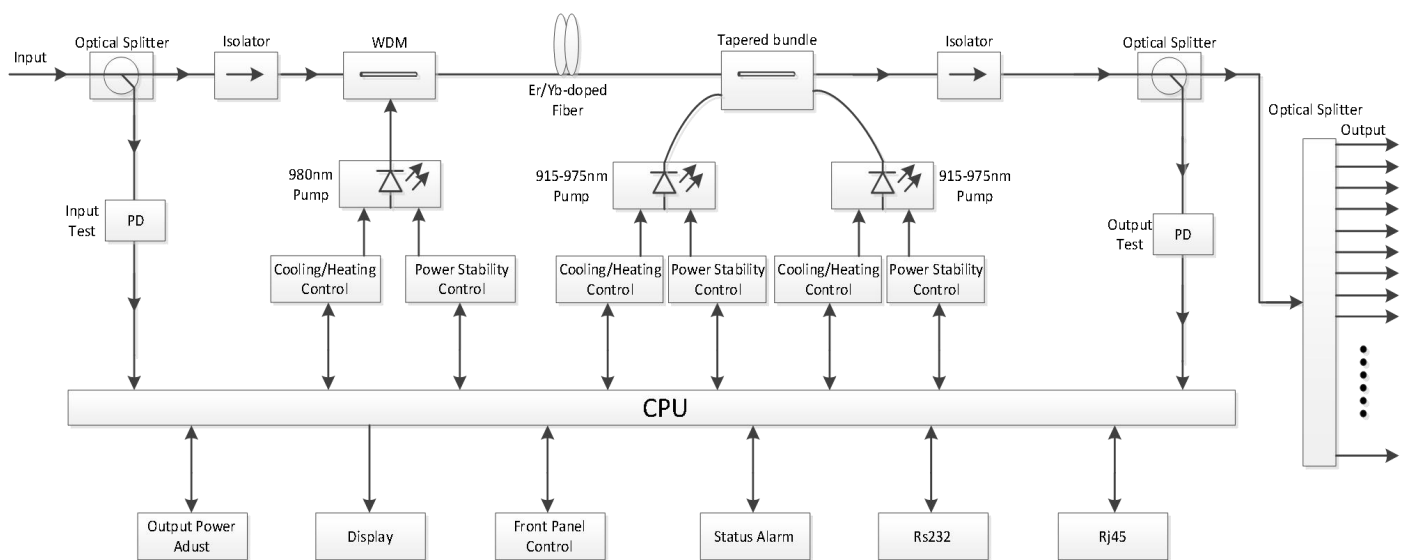
Category	Items	Unit	Index			Remarks
			Min.	Typ.	Max.	
Optical Index	CATV Operating Wavelength	nm	1545		1565	
	Optical Input Range	dBm	-3		10	
			-8		10	Optional
	Output Power	dBm			37	1dBm interval
	Output Adjustment Range	dB	-4		0	0.1dB each step
	Output Ports Uniformity	dB	-0.7		0.7	$< \pm 0.7\text{dB}$
	Output Power Stability	dB	-0.3		0.3	$< \pm 0.3\text{dB}$
	No. of Output Ports	No.			4	SC/APC

					8	SC/APC
					16	SC/APC
					32	LC/APC
	Switching Time of Optical Switch	ms			8	Optional
	Insertion Loss of Optical Switch	dB	0.5		0.8	
	Noise Figure	dB			6	Pin: 0dBm
	PDL	dB			0.3	
	PDG	dB			0.4	
	PMD	ps			0.3	
	Remnant Pump Power	dBm			-30	
	Optical Return Loss	dB	45			
	Fiber Connector		SC/APC			FC/APC,LC/APC
General Index	RF Test	dBμV	78		82	Optional
	Network Management Interface		SNMP,WEB supported			
	Power Supply	V	90		265	AC
			-72		-36	DC
	Power Consumption	W			70	Dual power supply、Output 37dBm
	Operating Temp	℃	-5		65	
	Storage Temp	℃	-40		85	

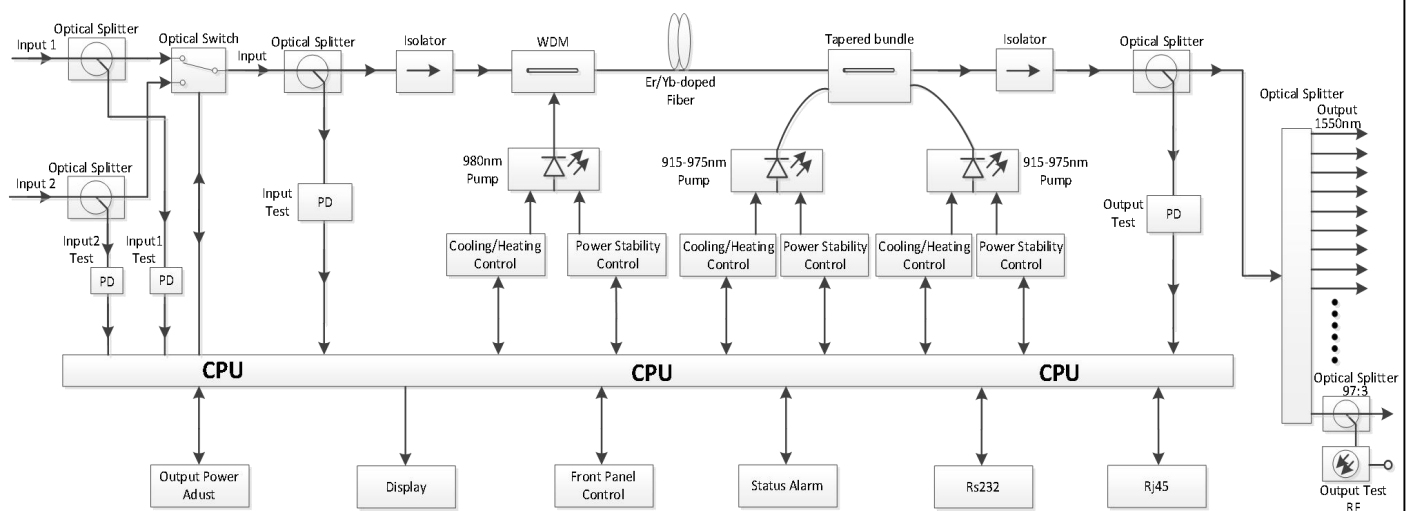
	Operating Humidity	Relative	%	5		95	
	Dimension		mm	370×483×44			W、L、H
	Weight		Kg	5.5			

IV. Diagram

4.1 Single Input Diagram

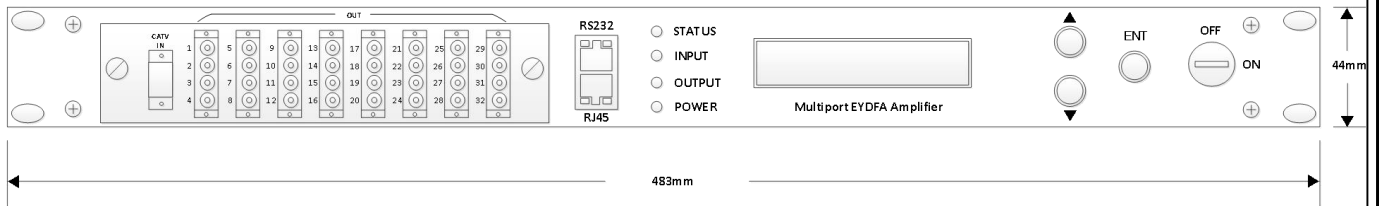


4.2 Dual Inputs Diagram (With RF test point)

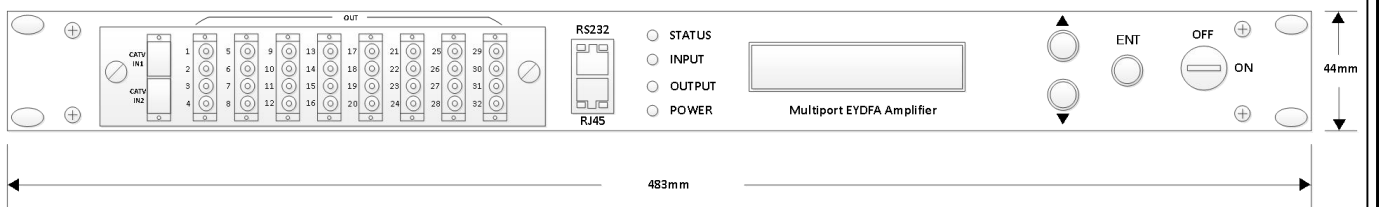


V. Panel Instructions

5.1 Front Panel



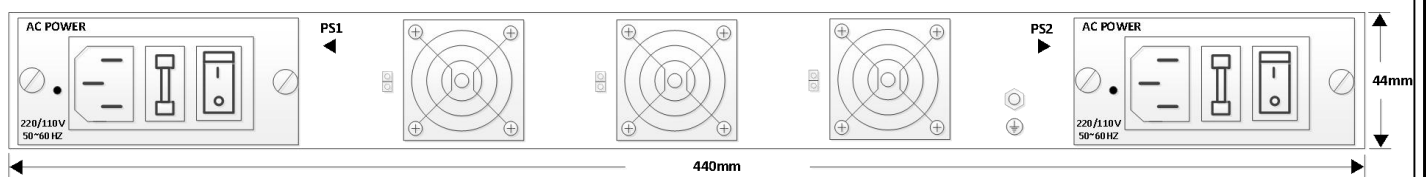
EYDFA single input



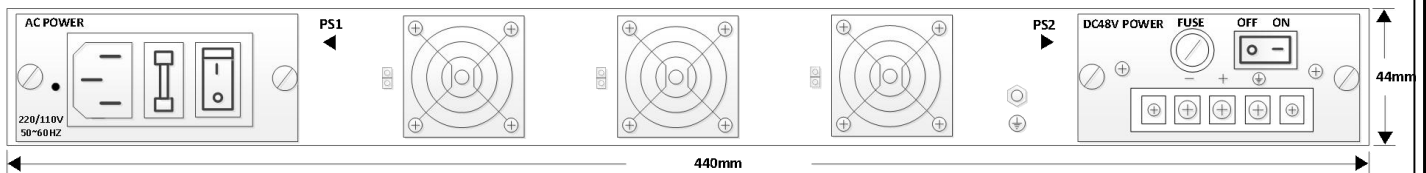
EYDFA dual inputs(with optical switch)

5.2 Rear Panel

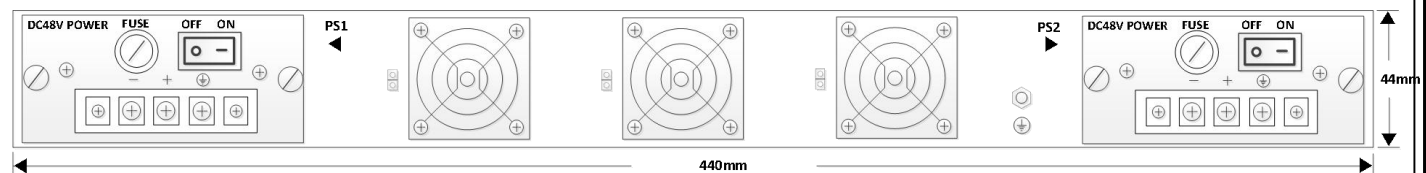
5.2.1 Dual 220V/110V



5.2.2 Dual 220V/110V+-48V



5.3.2 Dual-48V



VI. Order Guide

Product	No. of Output Port	Output Power per Port	Connector	Power Supply Module	Input Switch	Output Test
HPA-4100: 1550nm High Power EYDFA (1U)	04: 4 output ports 08: 8 output ports 16:16 output ports 32:32 output ports	16: single port output is 16 dBm 17: single port output is 17 dBm ... 23: single port output is 23 dBm 24: single port output is 24dBm	LA: LC/APC LU: LC/UPC SA: SC/APC SU: SC/UPC FA: FC/APC FU: FC/UPC	S22: single power supply 220V S48: single power supply -48V D22: dual power supply hot plug 220V D48: dual power supply hot plug -48V M24: dual power supply hot plug 220V &-48V	1: single input without optical switch 2: dual inputs with optical switch	00: no output test OT: Optical port test RT: Electrical port test

Model: HPA4100-16*22-SA-D22-2-RT

It is a 1550nm High Power EYDFA with 16 output ports and the output power per port is 22dBm, which the connector is SC/APC, the power configuration is dual-power hot plug with optical port test and electrical port test.

VII. Product Series

S/N	Type	Total Output	Total Output	Output Port	Output Power Per Port dBm
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		Power dBm	Power mW		
7.1.1	HPA4100-4*20	28	630	4	20.0
	HPA4100-8*17			8	17.0
7.1.2	HPA4100-4*21	29	800	4	21.0
	HPA4100-8*18			8	18.0
7.1.3	HPA4100-4*22	30	1000	4	22.0
	HPA4100-8*19			8	19.0
7.1.4	HPA4100-8*20	31	1260	8	20.0
	HPA4100-16*17			16	17.0
7.1.5	HPA4100-8*21	32	1600	8	21.0
	HPA4100-16*18			16	18.0
7.1.6	HPA4100-8*22	33	2000	8	22.0
	HPA4100-16*19			16	19.0
	HPA4100-32*16			32	16.0
7.1.7	HPA4100-8*23	34	2500	8	23.0
	HPA4100-16*20			16	20.0
	HPA4100-32*17			32	17.0
7.1.8	HPA4100-8*24	35	3200	8	24.0
	HPA4100-16*21			16	21.0
7.1.9	HPA4100-16*22	36	4000	16	22.0

	HPA4100-32*19			32	19.0
7.1.10	HPA4100-16*23	37	5000	16	23.0
	HPA4100-32*20			32	20.0

VIII. Applications

- 1、FTTH、FTTx PON、Triple-play
- 2、Network upgrading and capacity expansion based on existing optical fiber resource.
- 3、IP/QAM data business.

IX. Contact Us



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