

1550nm Erbium-Doped Fiber Amplifier

Model: HPA-1000 Series

Technical Specifications



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I. Products Overview

HPA1000 series EDFA, its core components adopt the world's top brand pump laser and erbium-doped fiber. The optimized optical design and production process ensure the best optical performance. The perfect electronic controlled modes of APC (automatic power control), ACC (automatic current control) and ATC (automatic temperature control) circuits are adopted to ensure high stability and reliability of the output power, at the same time, it also guarantees excellent optical path index.

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.

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 world's top brand pump laser and erbium-doped fiber.

2.2 Perfect APC, ACC and ATC optical circuit design ensures low noise, high output and high reliability of the device in the whole operating band (1530 ~ 1563nm).

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 safety of the laser.

2.4 Optional dual fiber inputs.

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

2.6 Max output reaches 27dBm.

2.7 Fully automatic case temperature control and intelligent fans, the fans start to work when the case temperature reaches 35 °C.

2.8 Built-in dual power supply, automatically switched and hot plug in/out supported.

2.9 The operating parameters of the whole device 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.

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

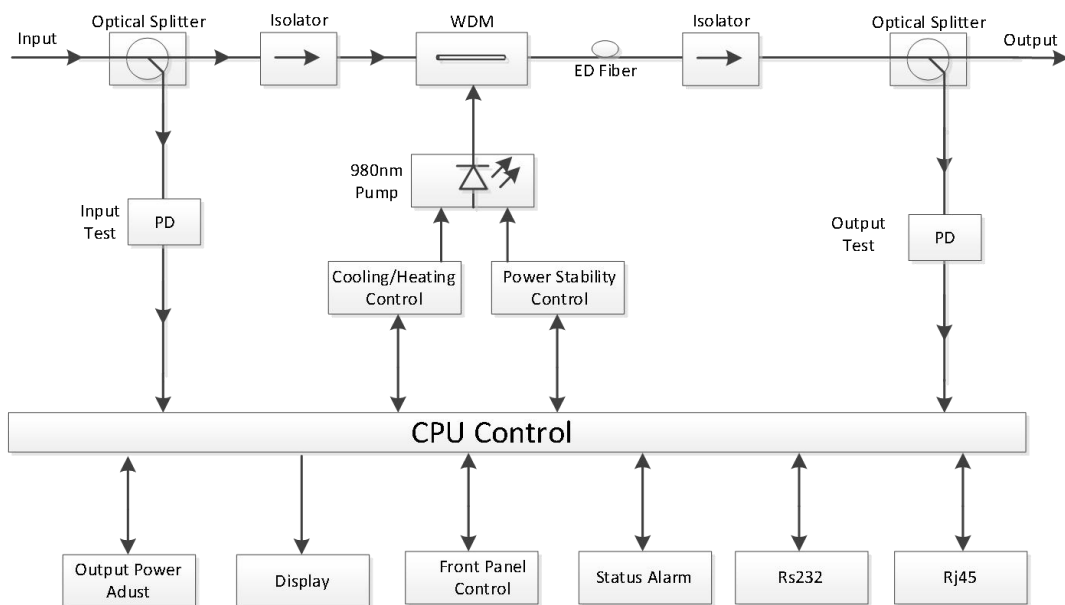
III. Main Technical Index

Category	Items	Unit	Index			Remarks
			Min.	Typ.	Max.	
RF Index	Operating Wavelength	nm	1530		1565	
	Optical Input Range	dBm	-10		10	
	Output Power	dBm	13		27	1dBm interval
	Output Adjustment Range	dB	-4		0	Adjustable, each step 0.1dB
	Output Power Stability	dB			0.2	
	No. of Output Ports	No.	1		4	Specified by user
	Noise Figure	dB			5	Pin: 0dBm
	PDL	dB			0.3	
	PDG	dB			0.3	
	PMD	ps			0.3	
	Remnant Pump Power	dBm			-30	
	Return Loss	dB	50			
Fiber Connector	dB		SC/APC		FC/APC、LC/APC	
General	Network Management Interface		SNMP,WEB supported			
Index	Power Supply	V	90		265	AC

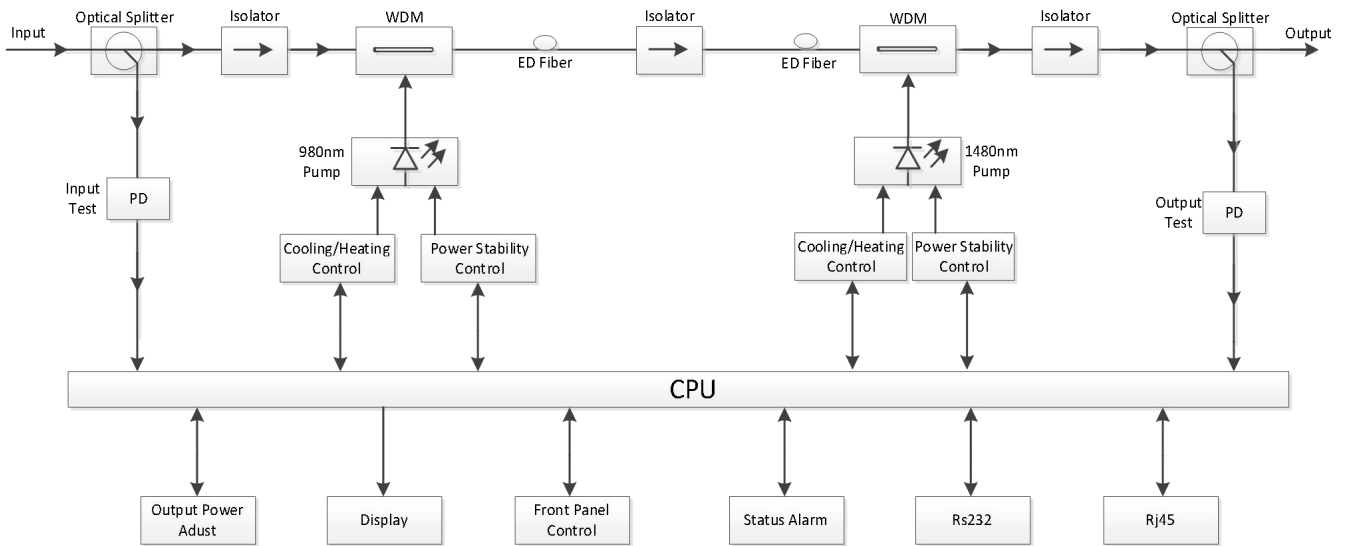
			-72	48	-36	DC
Power Consumption	W				15	Dual power supply, 24dBm
Operating Temp	°C		-5		65	Full automatic case temp control
Storage Temp	°C		-40		85	
Operating Humidity	Relative %		5		95	
Dimension	mm	360×483×44			W、L、H	
Weight	Kg	5				

IV. Diagram

4.1 Single Pump EDFA Diagram

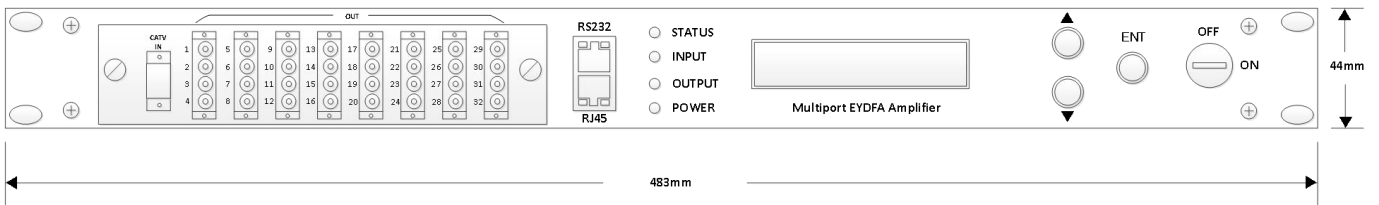


4.2 Dual Pumps EDFA Diagram



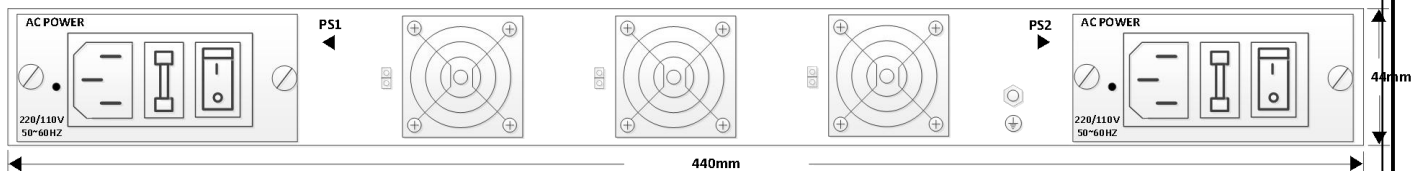
V. Panel Instructions

5.1 Front Panel

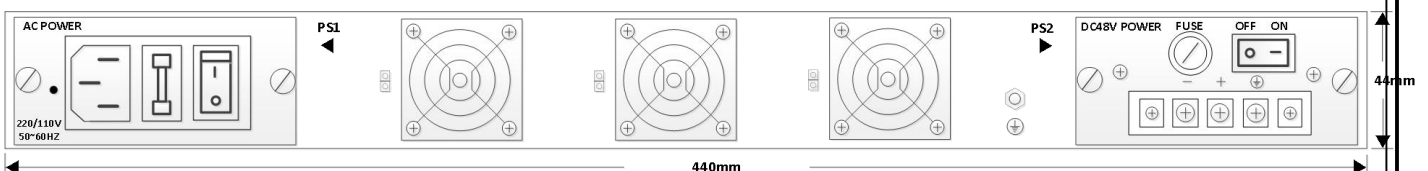


5.2 Rear Panel

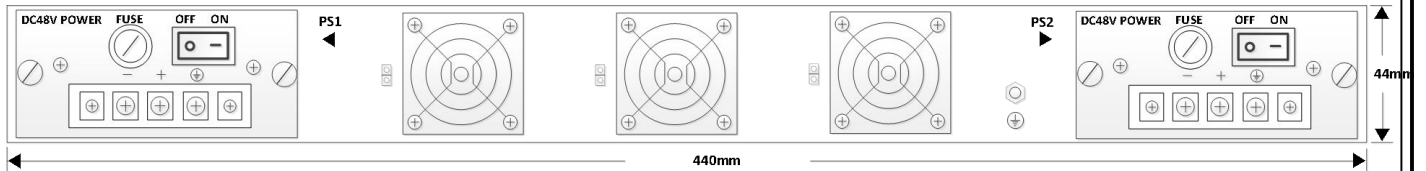
5.2.1 Dual 220V/110V



5.2.2 Dual 220V/110V+ -48V



5.2.3 Dual-48V



VI. Order Guide

TEA1000 — □□ * □□ — □□ — □□□ — □ — □□

Product	No. of Output Port	Output Power per Port	Connector	Power Supply Module	Input Switch	Output Test
HPA 1000: 1550nm Erbium-Doped Fiber Amplifier (1U)	01: one output port 02: two output ports 04: four output ports	13: single port output is 13 dBm 14: single port output is 14 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	1: single input without optical switch 2. Dual inputs with optical switch	00: no output test OT: Optical port test RT: Electrical port test

				&-48V		
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Model: HPA1000-1*22-SA-D22-2-RT

It is a 1550nm Erbium-Doped Fiber Amplifier of CatCast brand with one output port 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 Power dBm	Total Output Power mW	Output Port	Output Power Per Port dBm
7.1.1	HPA1000-1*13	13	19	1	13
7.1.2	HPA1000-1*14	14	26	1	14
7.1.3	HPA1000-1*15	15	31	1	15
7.1.4	HPA1000-1*16	16	39	1	16

7.1.5	HPA1000-1*17	17	50	1	17
7.1.6	HPA1000-1*18	18	63	1	18
7.1.7	HPA1000-1*19	19	79	1	19
7.1.8	HPA1000-1*20	20	100	1	20
7.1.9	HPA1000-1*21	21	125	1	21
7.1.10	HPA1000-2*17			2	17
7.1.11	HPA1000-1*22	22	158	1	22
7.1.12	HPA1000-2*18			2	18
7.1.13	HPA1000-1*23	23	200	1	23
7.1.14	HPA1000-2*19			2	19
7.1.15	HPA1000-4*16			4	16
7.1.16	HPA1000-1*24	24	251	1	24
7.1.17	HPA1000-2*20			2	20
7.1.18	HPA1000-4*17			4	17
7.1.19	HPA1000-1*25	25	316	1	25
7.1.20	HPA1000-2*21			2	21
7.1.21	HPA1000-4*18			4	18
7.1.22	HPA1000-1*26	26	398	1	26
7.1.23	HPA1000-2*22			2	22
7.1.24	HPA1000-4*19			4	19

7.1.25	HPA1000-1*27	27	501	1	27
7.1.26	HPA1000-2*23			2	23
7.1.27	HPA1000-4*20			4	20

VIII. Applications

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