

1550nm Erbium Doped Fiber Amplifier • HA8000 Series

Technical Specification

CONTENT

1.0 PRODUCT DESCRIPTION.....	1
2.0 PRODUCT FEATURE.....	2
3.0 MAIN APPLICATION.....	2
4.0 TECHNIQUE INDEX.....	3
5.0 OPTICAL/ELECTRICAL SCHEMA.....	4
5.1 OPTICAL PORT MODE – MASTER (021, WITHOUT MONITOR PORT, M21 WITH UPLINK, DOWNLINK MONITOR).....	4
5.2 OPTICAL PORT MODE – LINE 011.....	4
5.3 OPTICAL PORT MODE – SLAVE (012, WITHOUT MONITOR, M12 WITH UPLINK AND DOWNLINK MONITOR).....	5
6.0 MODEL EXPLANATION.....	6

1.0 Product description

HA8000 series, is a bi-directional fiber amplifier with high-quality. It can transmit and amplify downlink and uplink signal on one fiber. It offers an economical solution to network operators when utilizing the existing fiber source, upgrading networks and providing bi-directional VAD business.

HA8000 is a assembled flat form can configured flexible, users can specify downlink and uplink wavelength, downlink and uplink amplifier type (BA, LA, PA), output power, gain and amplifier optical port model according to their requirement.

2.0 PRODUCT FEATURE

- Downlink and uplink operating wavelength option:
R/B: downlink Red-Band (1548~1564nm), Uplink Blue-Band (1528~1563nm)
B/R: downlink Blue-Band (1528~1563nm), Uplink Red-Band (1548~1564nm)
C/C: Downlink and uplink are used C-Band (1528~1564nm)
- Downlink and uplink amplifier type (BA, LA, PA) and output optical power to choose
- Three optical ports mode option: Master, Line, Slave
- Perfect RS232 communication interface and SNMP network management function
- APC, AGC, ACC controlled selection
- Low noise, high performance, high reliability
- Excellent P/P ratio

3.0 MAIN APPLICATION

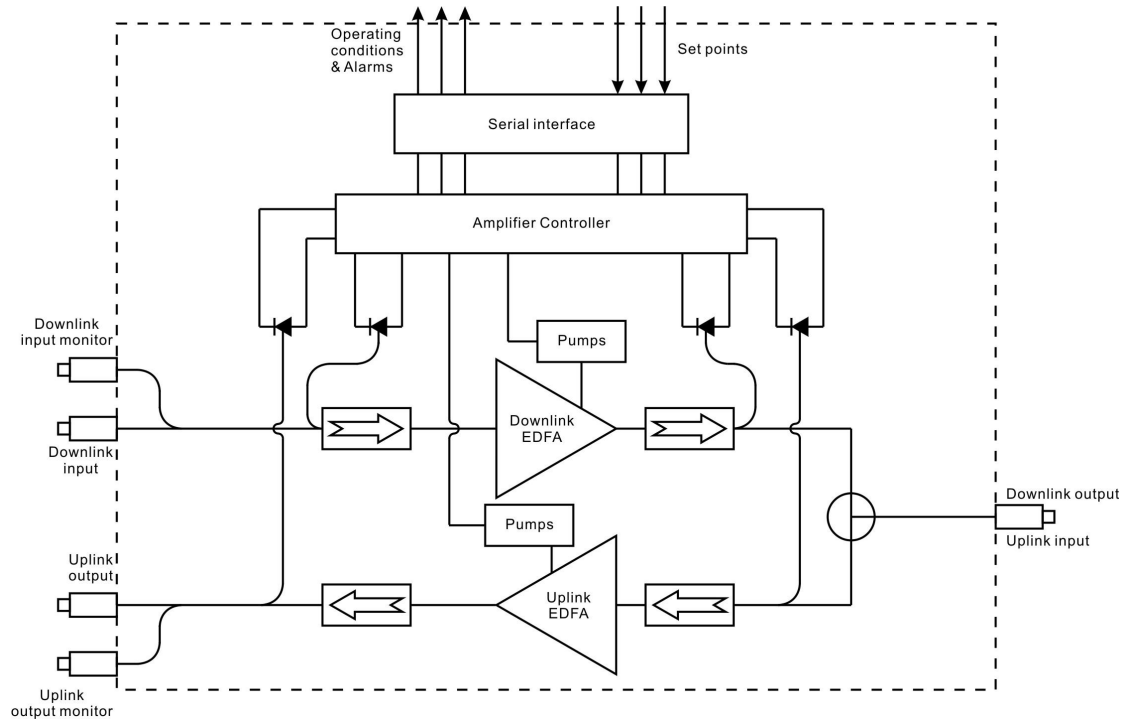
- Single fiber bi-direction DWDM application
- Network upgrade and value-added service

4.0 Technique index

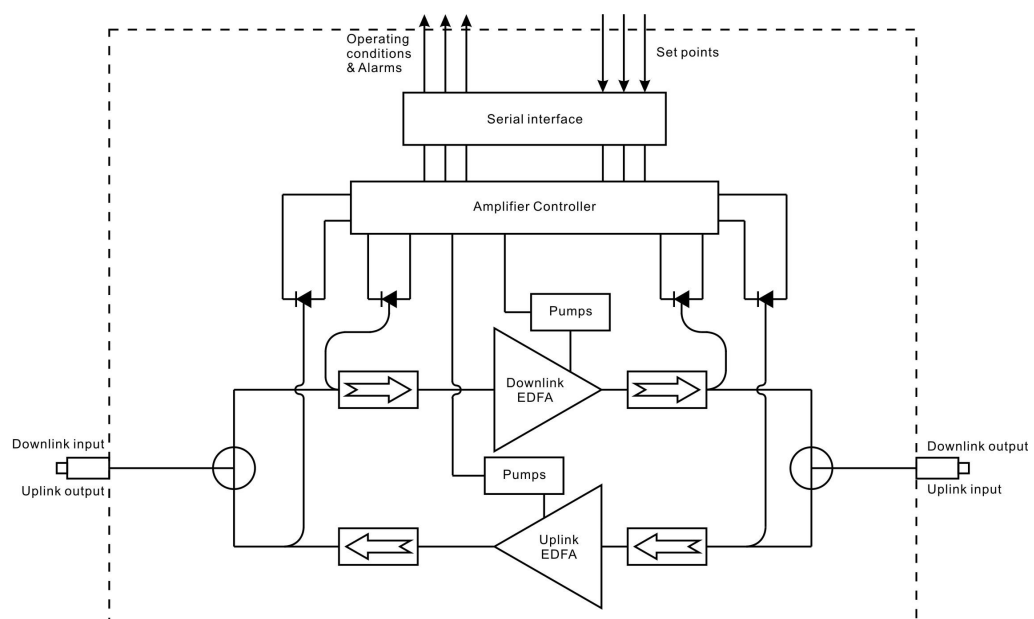
Performance			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	Operating wavelength range (uplink or downlink)	(nm)	1528		1563.3	B:Blue-band(C-Band)
			1548.4		1563.4	R:Red-band(L-Band)
			1528.0		1564.0	C: C-Band
	Input power	(dBm)	-10		+6	BA
			-25		-10	LA
			-35		-15	PA
	Output power	(dBm)			24	Uplink or downlink
	Noise figure	(dB)	3.8	4.0	6.3	(Max output,max gain)
	Gain flatness	(dB)		0.7	1.0	Pack-to-pack
	Polarization dependence loss	(dB)			0.3	
	Polarization dependence gain	(dB)			0.5	
	Polarization mode dispersion	(ps)			0.3	
	Input/output isolation	(dB)	30			
	Pump power leakage	(dBm)			-30	
Echo loss	(dB)	40			UPC	
		55			APC	
General feature	SNMP network management interface		RJ45			
	Series interface		RS232			
	Power supplement	(V)	90		265	220VAC
			30		72	-48VDC
	Power consume	(W)			50	
	Work temp.	(°C)	0		65	
	Storage temp.	(°C)	-40		80	
	Relative humidity	(%)	5		95	
Size (W)×(D)×(H)	(")	19×14.5×1.75			1RU (19")	
	(mm)	483×368×44				

5.0 OPTICAL/ELECTRICAL SCHEMA

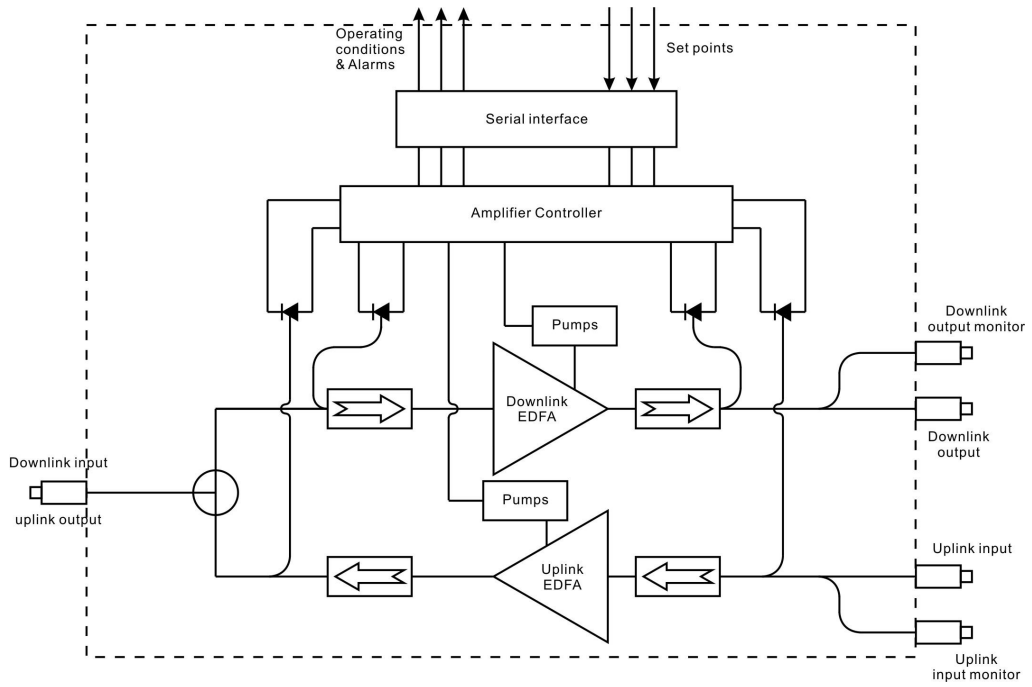
5.1 Optical port mode – Master (021, without monitor port, M21 with uplink, downlink monitor)



5.2 Optical port mode – Line 011



5.3 Optical port mode – Slave (012, without monitor, M12 with uplink and downlink monitor)



6.0 MODEL EXPLANATION

HA 8 1 2 0 R / 1 2 0 B

Product series	Operating bandwidth		Product type		BA & PA		Wavelength		Product type		BA & PA		Wavelength	
Amplifier of communication class	4	C-Band 1528~1565nm	0	No	00	No	R	C-Band/ Red-Band	0	No	00	No	B	C-Band/ Blue-band
			1	BA	13	13dBm			1	BA	13	13dBm		
	5	1540~1563nm CATV	2	LA	17	17dBm	B	C-Band/ Blue-band	2	LA	17	17dBm	R	C-Band/ Red-Band
			3	PA	20	20dBm			3	PA	20	20dBm		
	6	L-Band 1570~1610nm			21	21dBm	C	C-Band			21	21dBm	C	C-Band
					22	22dBm					22	22dBm		
					23	23dBm					23	23dBm		
					24	24dBm					24	24dBm		
					15	15dBm					15	15dBm		
					20	20dBm					20	20dBm		
					25	25dBm					25	25dBm		
					30	30dBm					30	30dBm		
35	35dBm	35	35dBm											
Downlink EDFA							Uplink EDFA							
	7	C+L-Band												
	8	Bi-direction												

- 0 N - 0 1 1 - 1 U - F / S A - 2 2

Function		Network management		Optical port mode		Exterior		Position of optical ports		Connector		Power supply	
0	No	0	Without	011	Line, without monitor port	1U	19" 1RU	F	Front-panel	FA	FC/APC	22	220VAC
P	Power adjustable	N	With	012	Master, without monitor port	2U	19" 2RU	B	Back-panel	FP	FC/UPC	11	110VAC
				M12	Master, with monitor port	3D	Desk-type			SA	SC/APC	48	-48VDC
G	Power gain			021	Slave, without monitor port	OD	Out-door			SP	SC/UPC		
				M21	Slave, with monitor port	OEM	Appearance user customized			LA	LC/APC		
										ML	Modulator	LP	LC/UPC