

HA7200 C+L-Band Erbium Doped Fiber Amplifier

PRODUCT DESCRIPTION

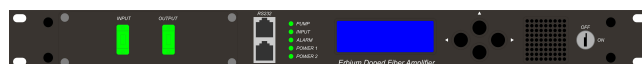
HA7200 series is a C-Band Line-EDFA with gain spectrum bandwidth coverage within 1528~1565nm and 1570~1605nm. According to the gain flatness feature, this series product can be divided into 2 types:

HA7200/SCH: single-channel Line-amplifier, do not fix on gain flatness, suitable for the application of single channel or 1~8 continuous ribbon channels (ITU wavelength).

HA7200/FXX: gain-flattened Line-amplifier, realizing gain flatness (F10, $\leq \pm 0.5\text{dB}$) at gain spectrum $< 1.0\text{dB}$ (Typ. $< 0.8\text{dB}$) within whole C+L-band, as adopting the high-quality GFF and optimization of optical route. Meet requirement of DWDM system C+L-band Line-amplifier on gain flatness and high output power totally.

HA7200/FXX gain flatness divided in two levels for option. Standard type F10: $\text{FL} \leq \pm 0.5\text{Db}$, ordinary type F20: $\text{FL} \leq \pm 1.0\text{dB}$.

HA7200 adopts the world's top class pump laser and America OFS erbium-doped optical fiber. Perfect APC, ACC and ATC control, excellent design in the ventilation and heat-dissipation ensure the long life and high reliable work of pump laser. RS232 and RJ45 offer serial commutation and SNMP network management port. The LCD at the front panel offers the work index of all equipment and warning alarm. The laser will switch off automatically if optical power is missing, which offers security protection for the laser. All the optical port can be installed in the front panel (also can be in the back panel if customers specify).



PRODUCT FEATURE

- ▶ C+L-Band operating bandwidth (1528~1565nm and 1570~1605nm)
- ▶ Low noise, high-output, high reliability
- ▶ HA7200/SCH single channel optical amplifier
- ▶ HA7200/FXX gain flatness optical amplifier
- ▶ Two gain flatness performance option: $\leq \pm 0.5\text{dB}$, $\leq \pm 1.0\text{dB}$
- ▶ APC, AGC, ACC controlled selection
- ▶ Powerful RS232 supervisory instruction
- ▶ Optional multi-exterior structure
- ▶ Three exterior option: 1U (19" stander), 3D (12.4", 3U, Desk-type) and modulator
- ▶ 1U and 3D exterior, offering status appearance and diagnosing fault with
- ▶ LCD, standard RS232 communication interface, SNMP network management function
- ▶ Application of 3D models to adapt to laboratory
- ▶ Excellent P/P ratio in area.

MAIN APPLICATION

- ▶ C+L-Band single channel booster amplification
- ▶ C+L-Band DWDM booster amplification
- ▶ Laboratory application

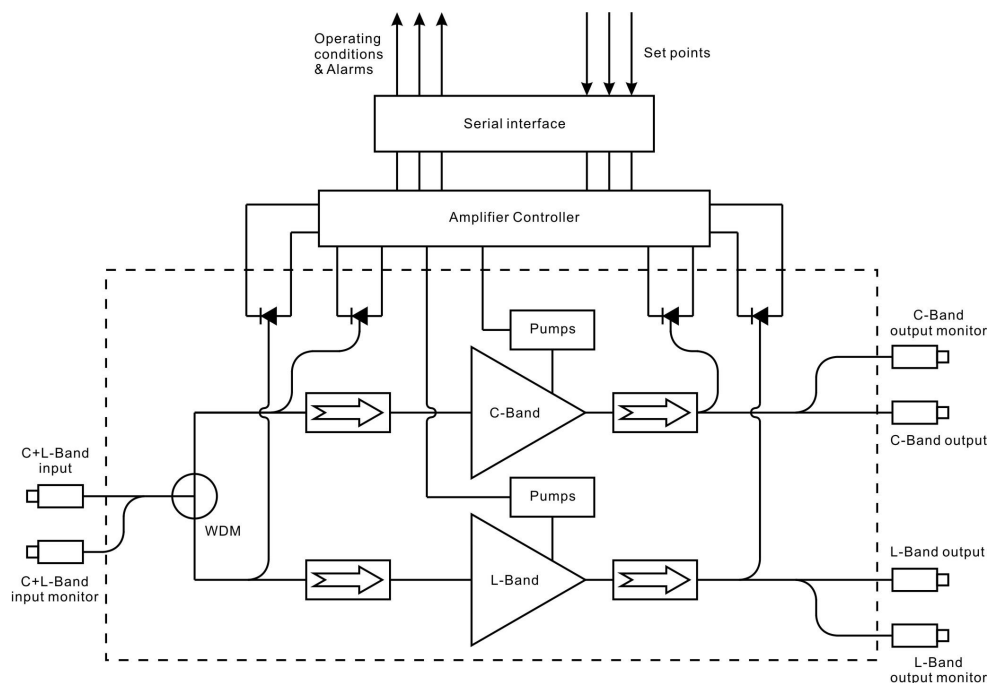
TECHNIQUE INDEX

Performance			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	Operating wavelength range	(nm)	1528		1563	C-Band
			1570		1605	L-Band
	Input power	(dBm)	-25		+3	
	Maximum output power1)	(dBm)			15	HA7215
					17	HA7217
					19	HA7219
					20	HA7220
					22	HA7222
					23	HA7223
					24	HA7224
	Output power adjustable range	(dBm)	0		-6	P type
	Gain flatness (Peak-to-peak, Nominal Gain)	(dB)	Single channel			SCH
				0.8	1.0	F10, ± 0.5
				1.5	2.0	F20, ± 1.0
	Noise figure (Max output, max gain)	(dB)			5.3	HA7215
					5.5	HA7217
					5.8	HA7219
					6.3	HA7220
					6.5	HA7222
					6.8	HA7223
					7.0	HA7224
	Polarization dependence loss	(dB)			0.3	
	Polarization dependence gain	(dB)			0.4	
	Polarization mode dispersion	(ps)			0.5	
	Input/output isolation	(dB)	30			
	Pump power leakage	(dBm)			-30	
	Echo loss	(dB)	40			UPC
			55			APC
General feature	SNMP network management interface		RJ45			
	Serial interface		RS232			
	Power supply	(V)	90		265	220VAC
			30		72	-48VDC
			23		25	+24VDC
	Power consume	(W)			50	
	Operating temp.	(°C)	0		65	
	Storage temp.	(°C)	-40		80	
	Operating relative humidity	(%)	5		95	
	Size (W)×(D)×(H)	(")	19×14.5×1.75			1RU (19")
		(")	12.4×15.4×5.25			3D (12.4", desk-type)
		(mm)	150×125×22			Modulator

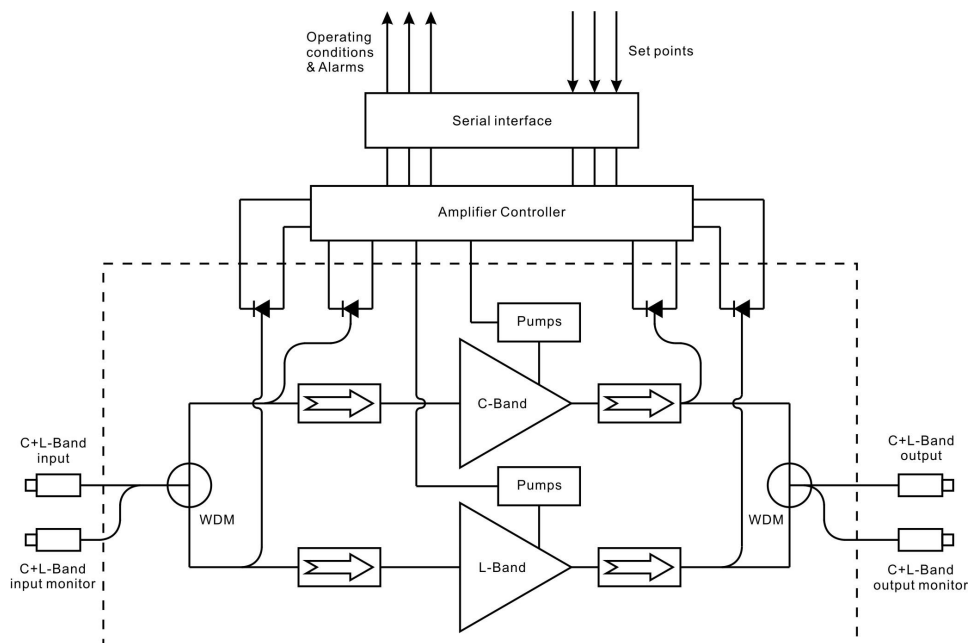
Remark: Output power can be customized by user.

OPTICAL/ELECTRICAL SCHEMA

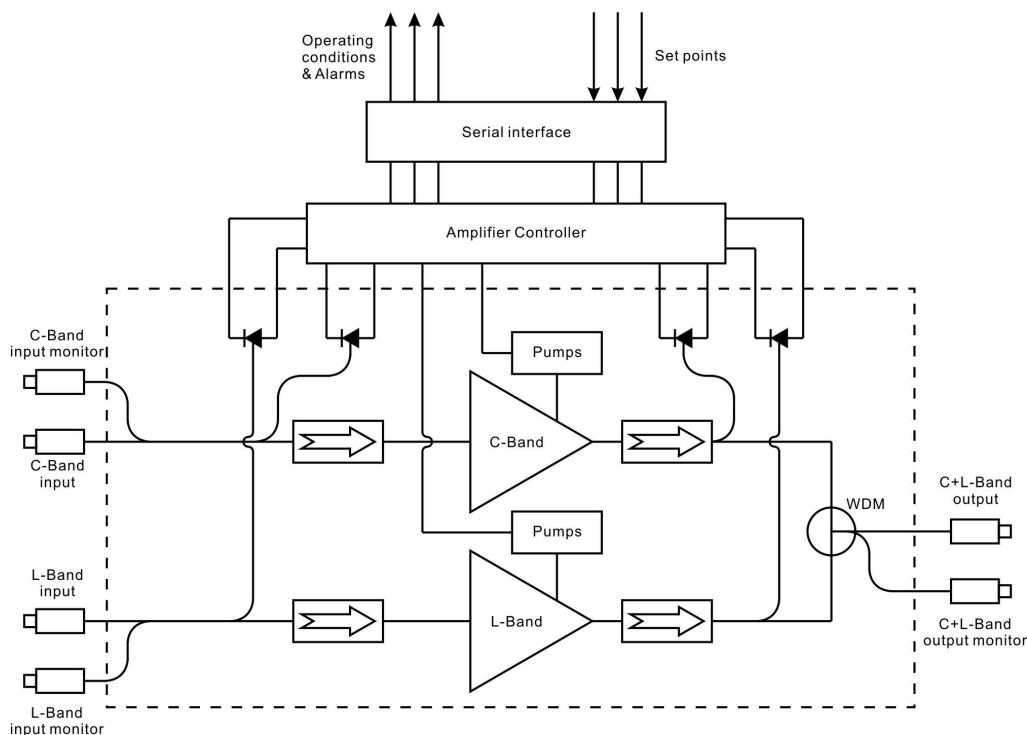
1. Optical port mode M12 (1×C+L-Band input, 1×C-Band output, 1×L-Band output.
With input & output monitor port)



2. Optical port mode 11 (1×C+L-Band input, 1×C+L-Band output. With input & output monitor port)



3. Optical port mode M21 (1×C-Band input, 1×L-Band input , 1×C+L-Band output. With input & output monitor port)



PRODUCT SERIES

Model	Output power Max (dBm)	Gain flatness (dB)	Wavelength (nm)	Function	Optical port mode
HA7215/SCH-0N-012	15	Single channel	1528~1565 & 1570~1605	With SNMP network management	1×C+L-Band input, 1×C-Band output, 1×L-Band output. Without input & output monitor port
HA7217/SCH-0N-012	17				
HA7219/SCH-0N-012	19				
HA7220/SCH-0N-012	20				
HA7222/SCH-0N-012	22				
HA7223/SCH-0N-012	23				
HA7224/SCH-0N-012	24	≤±0.5	1528~1565 & 1570~1605	With SNMP network management, output power 0 ~ -6dB adj.	1×C+L-Band input, 1×C-Band output, 1×L-Band output. With input & output monitor port
HA7215/F10-PN-M12	15				
HA7217/F10-PN-M12	17				
HA7219/F10-PN-M12	19				
HA7220/F10-PN-M12	20				
HA7222/F10-PN-M12	22				
HA7223/F10-PN-M12	23				
HA7224/F10-PN-M12	24				

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