

HWA4200 Series •
C-Band DWDM
Line EDFA (WLA-C)

Technical Specification

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1.0 PRODUCT DESCRIPTION

Huatai HWA4200 series, is designed for C-Band 44 waves or 88 waves DWDM system design Line Amplifier gain flatness. Products using the most excellent optical performance, the most advanced electronic control technology and comprehensive software features, has a wide operating wavelength range, Low noise, excellent gain flatness characteristics and transient characteristics.

HWA4200 is mainly installed in middle of transmission line, replacing the traditional relay, to compensate the optical power loss in the line and extend the optical signal transmission distance.

HWA4200 the world's top brands of pump lasers, advanced electronic circuit design and low power consumption, which greatly reduces the overall thermal power, to ensure long life and high reliability PUMP Laser work. Front panel LCD, LED offers the work parameters and alarms. RS232 and RJ45 provides serial communications and SNMP network management interface. Optical loss, laser automatically shut down, provides laser safety protection.

HWA4200 has two kinds of function versions are available:

1. Standard version: provides a fixed gain control mode (FGA), the pump current control mode (ACC)
2. Enhanced version: In addition to the standard version with the control functions, increasing the variable gain control mode (VGA, AGC), Variable output power control mode (VPA, APC).

HWA4200 enhanced version, for 44 wave DWDM systems, providing a flexible, high-performance, low-cost networking applications.

2.0 PRODUCT FEATURE

- Wide working wavelength: 1529.16~1563.86nm
- Accord with the communication technology requirements of 44 channels DWDM system
- Excellent gain flattened feature (GF<1.0dB)
- Excellent Transient feature
- Low noise figure
- Carrier-class security and reliability, and network management function
- The LCD, LED at the front panel offers the work index and warning alarm of all equipment.
- Standard RS232 communication interface
- 10/100M Ethernet interface supports SNMP and WEB remote network management
- 1+1 powers supply back up optional, hot-plug function available
- Low power consumption
- Excellent P/P ratio in area

3.0 MAIN APPLICATION

- 44 channels DWDM system
- Long distance trunk network
- MAN or access network
- All kinds of SDH/PDH transmission system
- FTTx PON

4.0 Software Function monitoring and alarm

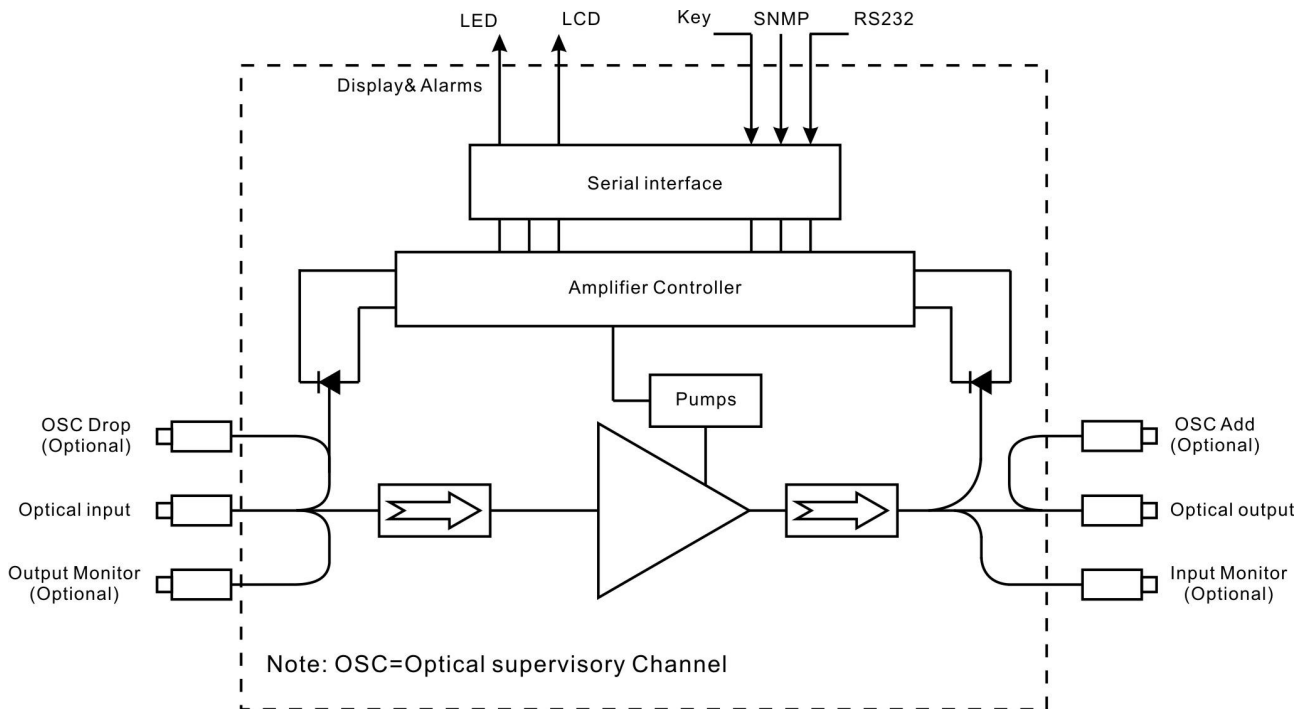
Function, Monitoring, Alarm		Standard version	Enhanced version
Functions	In-Service Firm ware Upgrades	√	√
	Auto Shut Down	√	√
	Fixed Gain Mode (FGA)	√	√
	Variable Gain Control Mode (VGA, AGC)	✘	√
	Variable output power control mode (VPA, APC)	✘	√
	Pump Current Control Mode (ACC)	√	√
	Pump Maximum Working Current limit Protection	√	√
Monitors	Total input power	√	√
	Total output power	√	√
	Pump status	√	√
	Chassis temperature	√	√
Alarms	Loss-of-signal alarm	√	√
	Chassis temperature alarm	√	√
	Pump temperature alarm	√	√
	Pump bias alarm	√	√

5.0 TECHNICAL INDEX

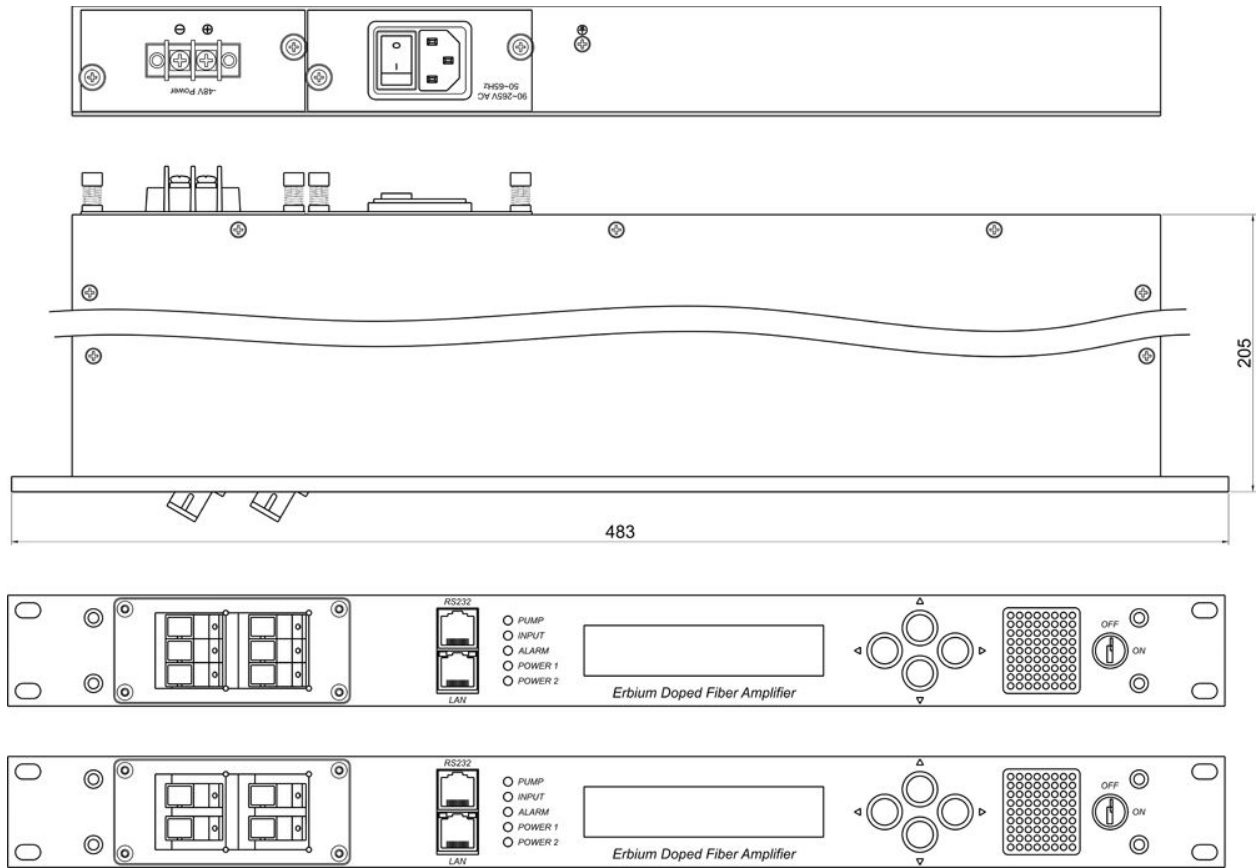
Performance			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	Work wavelength range(λ)	(nm)	1529.16		1563.86	ITU 88CH
	No. of Working channel	(CH)	1	44		
	Input optical power range(P_i)	(dBm)	-20		-5	
	Saturation output power(P_o)	(dBm)	18			Customer selection
	Variable Output Power Range	(dB)	-6		0	Enhanced version
	Signal gain		20			Customer selection
	Variable Gain Range	(dB)	-12		0	Enhanced version
	gain flattened	(dB)		0.7	1.0	Value of Peak to Peak
	Noise figure	(dB)		5.0		Max output, max gain
	Polarization dependence gain (PDG)	(dB)			0.3	
	Polarization mode dispersion (PMD)	(ps)			0.3	
	Polarization dependence loss (PDL)	(dB)			0.3	
	Input/output optic isolation	(dB)	30			
	Pump leakage power	(dBm)			-30	
	Echo loss	(dB)	45			UPC
55					APC	
Wavelength range of optic management channel	(nm)	1500	1510	1520		
Transient feature	Transient setting time	(dB)			700	
	Transient Overshoot	(dB)	-1.5		+1.5	
	Transient offset	(dB)	-0.5		+0.5	
General feature	SNMP network management interface		RJ45			
	Communication interface		RS232			
	Power supply	(V)	90		265	220VAC
			30		72	-48VDC
Power consumption	(W)			30		

Working temp.	(°C)	-5		+70	
Storage temp.	(°C)	-40		+85	
Working relative humidity	(%)	+5		+95	
Size (W)×(D)×(H)	(mm)	483×205×44			

6.0 OPTICAL/ELECTRICAL SCHEMATIC



7.0 CHASSIS SIZE



8.0 PRODUCT SERIES

Model	Stauration power	Signal gain	Gain flatness	The Function Version	Monitor optical port mode	OSC Optical port mode
HWA4218-G20	18 dBm	20dB	<1.0dB	1, FG: Standard version (FGA) 2, VG: Enhanced Version (VGA))	1, MO: With output monitoring 2, MI: With input monitoring 3, MIO: With input and output monitoring	1、OD: OSC / Drop 2、OA: OSC / Add 3、ODA: OSC / Drop & Add
HWA4218-G22		22dB				
HWA4218-G24		24dB				
HWA4218-G27		27dB				
HWA4218-G32		32dB				
HWA4220-G20	20dBm	20dB	<1.0dB			
HWA4220-G22		22dB				
HWA4220-G24		24dB				
HWA4220-G25		25dB				
HWA4220-G27		27dB				
HWA4220-G30		30dB				
HWA4222-G20	22dBm	20dB	<1.0dB			
HWA4222-G22		22dB				
HWA4222-G24		24dB				
HWA4222-G27		27dB				
HWA4222-G30		30dB				
HWA4223-G20	23 dBm	20dB	<1.0dB			
HWA4223-G22		22dB				
HWA4223-G24		24dB				
HWA4223-G27		27dB				
HWA4223-G30		30dB				

Note: The signal gain and the saturation output power can be chosen by the user

9.0 ORDERING INFORMATION

HWA 4 2 □□ - G□□ - □□ - □□ - □ / □□ - M□□ - O□□

Huatai Telecom DWDM Optical amplifier	Operation wavelength		Product type		Stauration power		Signal gain		The Function Version		Connncrtor		Power mode		Power supply		Monitor options		OSC optical port options			
	4	1529.16~1563.86nm C-Band 44 CH & 88 CH	2	Line amplifier LA	18	18dBm	20	20dB	20	20dB	FG	Standard version FGA	LP	LC/UPC	S	Single PS	22	220VAC	M00	Without monitor	O00	Without OSC
					20	20dBm	22	22dB	22	22dB	FG	Standard version FGA	LA	LC/APC	P	Dual PS Hot plug	48	-48VDC	M00	Without monitor	OD	OSC/Drop
					22	22dBm	24	24dB	24	24dB	VG	Enhanced Version VGA	SP	SC/UPC			42	-48VDC &220VAC	MO	With output monitor	OA	OSC/Add
					23	23dBm	27	27dB	27	27dB	VG	Enhanced Version VGA	SA	SC/APC					MO	With output monitor	ODA	OSC/Drop & Add
								30	30dB			FP	FC/UPC					MI	With input monitor			
												FA	FC/APC					MIO	With input & output Monitor			