HWA4300 (With SNMP)

C-Band DWDM Pre-Amplifier EDFA (WPA-C)

PRODUCT DESCRIPTION

HWA4300 series, is designed for C-Band 44 waves or 88 waves DWDM system design Pre-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.

HWA4300 is mainly installed in the front of receiver, used for improving sensitivity of the receiver and extending the signal transmission distance.

HWA4300 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.

HWA4300 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).

HWA4300 enhanced version, for 44 wave DWDM systems, providing a flexible, high-performance, low-cost networking applications.

PRODUCT FEATURES

- ▶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

MAIN APPLICATION

▶44 channels DWDM system

▶Long distance trunk network

▶MAN or access network

▶All kinds of SDH/PDH transmission system

▶FTTx PON

SOFTWARE FUNCTION MONITORING AND ALARM

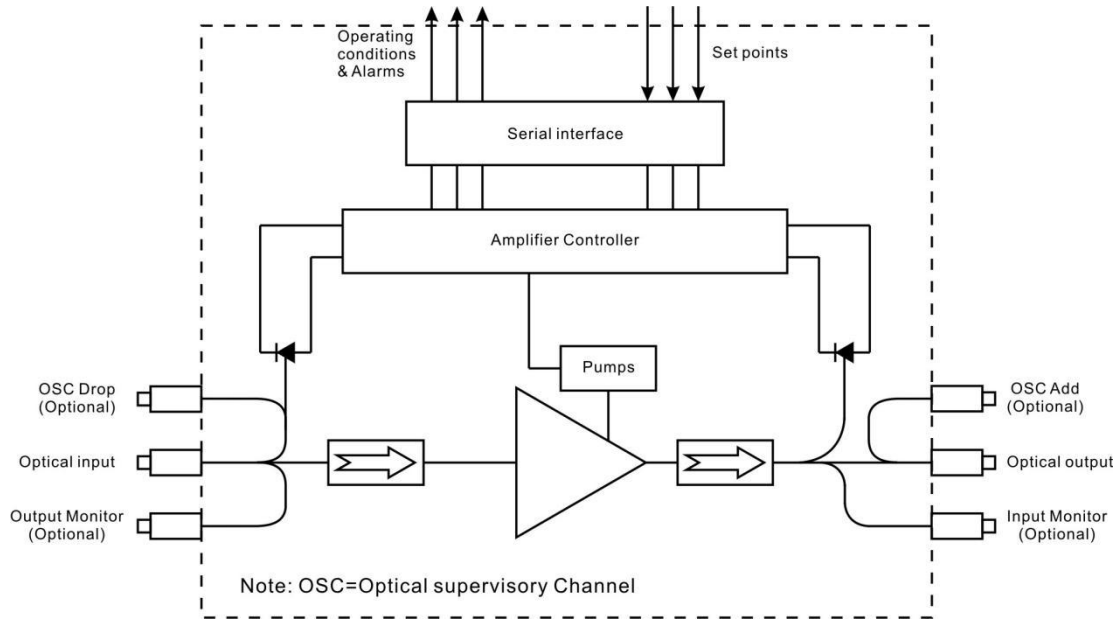
Function, Monitoring, Alarm		Standard version	Enhanced version
Functions	In-Service Firmware Upgrades	√	√
	Auto Shut Down	√	√
	Fixed Gain Mode (FGA)	√	√
	Variable Gain Control Mode (VGA, AGC)	×	√
	Variable output power control mode (VPA, APC)	×	√
	Pump Current Control Mode (ACC)	√	√
	Pump Maximum Working 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	√	√

TECHNICAL INDEX

Performace			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	Working wavelength range (λ)	(nm)	1529.16		1563.86	C-Band
	No. of working channel	(CH)	1	44		
	Input Optical Power (Pi)	(dBm)	-36			
	Saturation output power(Po)	(dBm)		14		Enhanced version
	Variable output power range	(dB)	-6		0	Value of Peak-to-peak
	Signal gain	(dB)	13		36	Enhanced version
	Variable gain range	(dB)	-12		0	Value of Peak-to-peak
	Gain flatness	(dB)		0.7	1.0	
	Noise figure	(dB)		4.5		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 isolatioin	(dB)	30			
	Pump leakage power	(dB)			-30	
	Echo loss	(dB)	45			UPC
			55			APC
	Optical Supervisory Channel Wavelength	(nm)	1500	1510	1520	
Transient feature	Transient setting time	(μs)			700	16dB Add/Drop
	Transient Overshoot	(dB)	-1.5		+1.5	16dB Add/Drop
	Transient gain changes	(dB)	-0.5		+0.5	
General feature	SNMP network management		RJ45			
	Communication interface		RS232			
	Power supply	(V)	90		265	220VAC
			30		72	-48VDC
	Power consumption	(W)			15	

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

OPTO-ELECTRICAL DIAGRAM



PRODUCT SERIES

Model	Stauration power	Signal gain	Gain flatness	The Function Version	Monitor optical port mode	OSC Optical port mode
HWA4314-G13	14dBm	13dB	<1.0dB	1, FG: Standard Version (FGA) 2, VG: Enhanced Version (VGA)	1, M00: Without monitor 2, MO: With output monitor 3, MI: With input monitor 4, MIO: With input and output monitor	1, O00: Without OSC 2, OA: OSC / Add
HWA4314-G14		14dB				
HWA4314-G17		17dB				
HWA4314-G20		20dB				
HWA4314-G22		22dB				
HWA4314-G24		24dB				
HWA4314-G25		25dB				
HWA4314-G27		27dB				
HWA4314-G30		30dB				
HWA4314-G33		33dB				
HWA4314-G37		37dB				
HWA4318-G13	18dBm	13dB	<1.0dB			
HWA4318-G14		14dB				
HWA4318-G17		17dB				
HWA4318-G20		20dB				
HWA4318-G22		22dB				
HWA4318-G24		24dB				
HWA4318-G25		25dB				
HWA4318-G27		27dB				
HWA4318-G30		30dB				
HWA4318-G33		33dB				
HWA4318-G37		37dB				

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

MODEL EXPLANATION

HWA 4 3 □□ – G□□ – □□– □□ – □ / □□ – M□□ – O□□

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	3	Pre amplifier PA	14	14dBm	13	13dB	FG	Standard version FGA	LP	LC/UPC	S	Single PS	22	220VAC	M00	Without monitor	O00	Without OSC
					18	18dBm	14	14dB			LA	LC/APC	P	Dual PS Hot plug	48	-48VDC			OD	OSC/Drop
							17	17dB	VG	Enhanced Version VGA	SP	SC/UPC			42	-48VDC &220VAC	MO	With output monitor		
							20	20dB			SA	SC/APC								
							22	22dB			FP	FC/UPC								
							24	24dB			FA	FC/APC								
							27	27dB												
							30	30dB												
							33	33dB												
							36	36dB												