

WPA4300-FM04 (100×130×19mm)

C-Band DWDM Pre-Amplifier EDFA Module

PRODUCT DESCRIPTION

WPA4300-FM04 series with 100 × 130 × 19mm Compact package, is a digital control circuit with DWDM full function preamplifier module. 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. Suitable for C-Band 44 or 88 wave wave DWDM system applications.

WPA4300-FM04 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).

WPA4300-FM04 enhanced version, for DWDM systems, providing a flexible, high-performance, low-cost networking applications.



PRODUCT FEATURES

- ▶ With Digital Control Electronics (Full Function)
- ▶ Wide working wavelength: 1529.16~1563.86nm
- ▶ Accord with the communication technology requirements of 44 channels DWDM system
- ▶ Excellent gain flatness feature (GF<1.0dB)
- ▶ Excellent Transient feature
- ▶ Low noise figure.
- ▶ Standard RS232 communication interface.
- ▶ Compact package (100×130×19mm)
- ▶ Low power consumption, Wide operating temperature range
- ▶ Excellent P/P ratio in area.

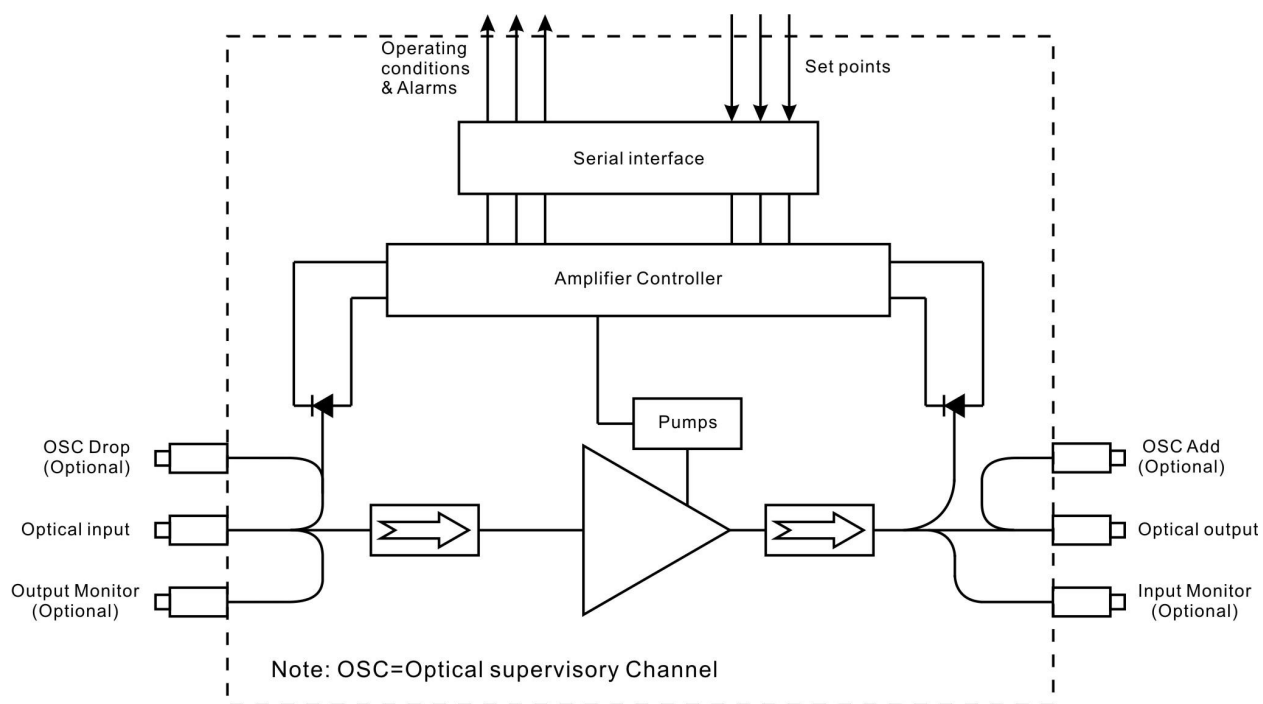
MAIN APPLICATION

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

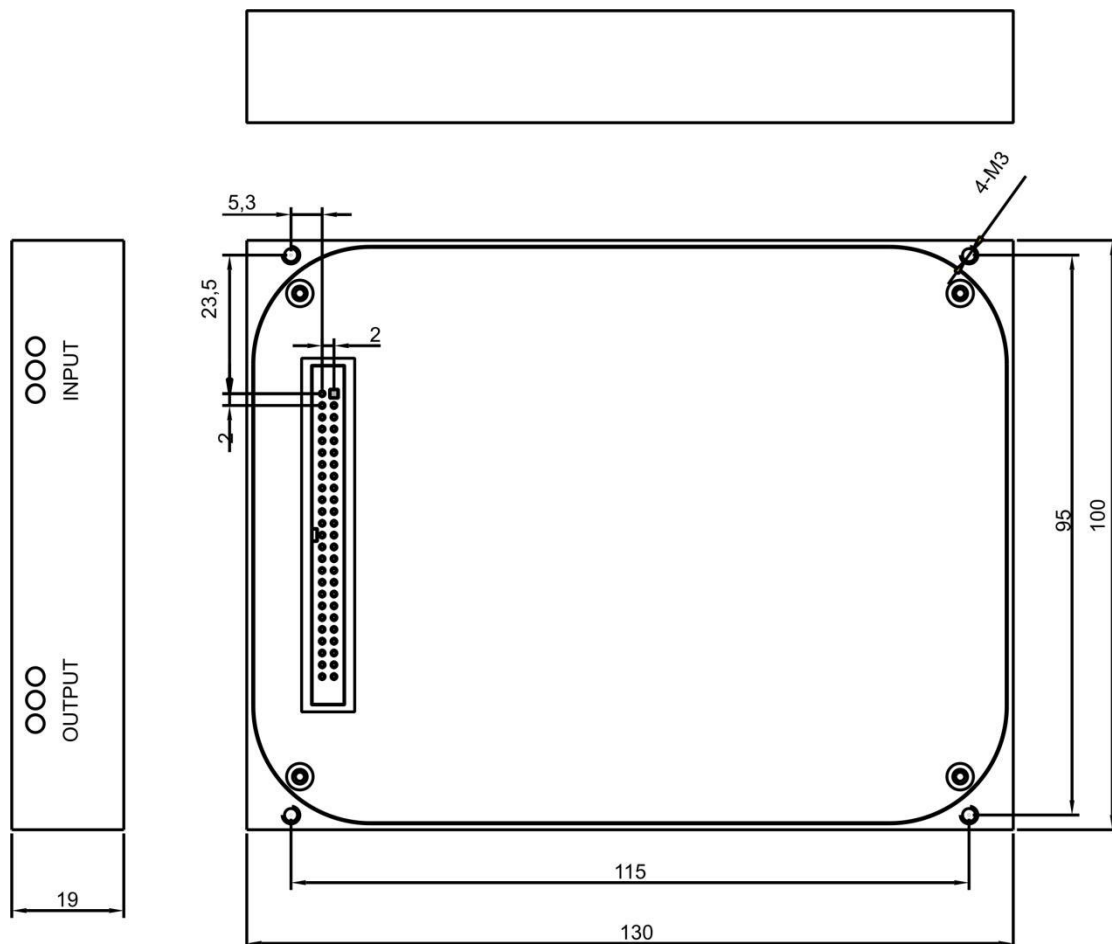
SOFTWARE FUNCTION MONITORING AND ALARM

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	√	√

OPTO-ELECTRICAL DIAGRAM



MODULE GHASSIS LENGTH



TECHNICAL INDEX

Performace			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	Working wavelength range (λ)	(nm)	1529.16		1563.86	ITU 88CH
	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	(μ s)			700	16dB Add/Drop
	Transient Overshoot	(dB)	-1.5		+1.5	16dB Add/Drop
	Transient gain changes	(dB)	-0.5		+0.5	
General feature	Communication interface		RS232			
	Fiber type		Coming SMF-28™ or equivalent			
	Pigtail buffer diameter	(μ m)		900		
	Pigtail length	(mm)		1000		
	Power supply	(V)	+4.75	+5	+5.25	

Power consumption	(W)		2.0	10	
Working temp.	(°C)	-5		+70	
Storage temp.	(°C)	-40		+85	
Working relative humidity	(%)	+5		+95	
Size (W)×(D)×(H)	(mm)	100×130×19			

50 PIN DEFINATION

Pins	Description	Pins	Description
1	Power supply	2	Power supply
3	Power supply	4	Power supply
5	Power supply	6	Power supply
7	Ground	8	Ground
9	Ground	10	Ground
11	Reserved (do not connect)	12	Output reflection alarm
13	Ground	14	Resent input
15	Serial input	16	Serial output
17	Pump current alarm	18	Stage 1 input LOS alarm
19	Ground	20	Ground
21	Reserved (do not connect)	22	Reserved (do not connect)
23	Reserved (do not connect)	24	Reserved (do not connect)
25	Ground	26	Reserved (do not connect)
27	Stage 2 input LOS alarm	28	Ground
29	Stage 2 output/Gain alarm	30	Ground
31	Ground	32	Ground
33	Case temperature alarm	34	Stage 1 output / Gain alarm
35	Pump temperature alarm	36	Pin is absent (Polarization key)
37	Amplifier disable input	38	Output Power mute input
39	I2C SCL (Optional)	40	I2C SDA (Optional)
41	Ground	42	Ground
43	Ground	44	Ground
45	Power supply	46	Power supply
47	Power supply	48	Power supply
49	Power supply	50	Power supply

