

FWAP-1550H-128xN Series, 128 ports PON&CATV WDM EDFA



1. Product Description

FWAP-1550H series erbium and ytterbium co-doped high-power fiber amplifier is the latest optical transmission system equipment, realizing to combine optical signal OLT XPON/XG(S)-PON and 1550nm CAT, and amplify the CATV signal as well. The optical input number: 1 port of CATV or 2 redundant CATV inputs + 128 ports PON input ports. 128 ports outputs of 1550nm+1490nm/1310nm & 1270/1577nm combine output, of which the total output power range of 1550nm is 33 ~ 45dBm. Multiple output power can be matched according to user demand.

Fullwell's high-power WDM EDFA is well compatible with the OLT/ONU of HUAWEI, ZTE, FiberHome, etc and no data is lost, which owns high cost performance. It is mainly used for XPON / XG(S)-PON structure fiber to home(FTTH) and fiber to the building(FTTB).

This series product adopts JDSU, Lumentum, II-VI etc multimode high power pump laser as pump source and American OFS closed beam splitter as double-cladding synthesizer. Built-in optical power output stabilization circuit and laser thermoelectric cooler temperature stabilization control circuit ensure the best performance of the EDFA and the long-term stable operation of the laser. The microprocessor software monitors the working status of the laser, and the working parameters are displayed on the digital panel (LCD). Once the laser's working parameters deviate from the allowable range set by the software, the micro-processing will automatically turn off the laser power, and the red light flashes to alert.

2. Product feature

- ◆ Top quality: Adopt multi-mode high-power pump laser and the power is optimized through software, which makes the system achieving excellent CNR.
- ◆ Reliability: Adopt 19" 3U standard chassis, built-in high performance modular switching power supply, can work in AC165 ~ 265V city network voltage. DC 48V hot-swappable power supply option is available as well. Dual hot and reserved power supply with Chassis automatic heat dissipation control.
- ◆ Intuitive: The built-in microprocessor monitors the working status of the pump laser, and the working parameters are displayed on LCD.
- ◆ Network management Interface: Web transponder is line with the national standard and compatible with the SCTE HMS standard, achieving WEB monitoring function. The red warning symbol is displayed on the web page,

which is convenient for troubleshooting.

- ◆ Adjustable output optical power: Advanced design enables a large adjustable range of output power, and power can be lowered by 0 ~ -3dBm.
- ◆ Plug-in WDM modular: Integrated FWDM module, CATV, GPON, EPON, XG (S) -PON (customized). One fiber with multi-waves is convenient to use.
- ◆ Built-in optical switch option: There are automatic (prefer) or manual (force) switch mode when CATV signal has main path A and redundant path B optical switch input (OPT SWTTCH). Automatic mode uses the main path A by default, it switches to redundant path B if A input power fails.

3. Technical Parameters

Items	Unit	Performance Index	
Optical Operating Wavelength	nm	1535~1565	
Input Optical Power Range	dBm	-10~+10	
Noise Ratio	dB	≤5.0 (0 dBm,@1550nm)	
Gain Flatness	dB	< ±0.3	
Optical Power Output Stability	dB	< ±0.5	
Polarization Sensitivity	dB	<0.2	
Polarization Mode Dispersion	Ps	<0.5	
Input End Pump Leakage Power	dB	≤-30	
Output End Pump Leakage Power	dB	≤-30	
Optical Input, Output Return Loss	dB	>45 (APC Stepped Face)	
Pump Operating Number	PCs	3~5	
Rated Output Power	dBm	33~45	
Linker (IN)	-	SC/APC or LC/APC	
Linker (OUT)	-	LC/APC	
Power Supply/Consumption	V/W	AC165~265 or DC-48/20	
Operating/Storage Temperature	°C	-20~65/-30~70	
Operating/Storage Humidity	%	5~90	
Case Size	mm	530×486×133 (3U)	
Network Management Connector	/	RJ45(following national network management standard, supports WEB)	
PON Optical Path with WDM	PON Wavelength	mm	1310/1490
	XG(S)- PON Wavelength		1310/1490 & 1270/1577 (customized)
	PON Linker	/	LC/UPC
	Uplink optical ports	pcs	128
	Output ports	Pcs	128
	PON Insertion Loss	dB	<1.2
	1550 Port Insertion Loss	dB	<0.7
	Optical isolation	dB	40
Optical Switch	Insertion Loss	dB	<1
	Harass	dB	<-60 (isolation between A and B)
	Switch Time	ms	<10
	Switched Power Threshold Range	dBm	-5~10

4. Product model series

Model Number	Total Output Power dBm(mW)	Output No.	Each Output Power (dBm)
FWAP-1550H-32x16	33dBm(2000mW)	32	16
FWAP-1550H-64x11		64	11
FWAP-1550H-32x17	34dBm(2500mW)	32	17
FWAP-1550H-64x12		64	12
FWAP-1550H-32x18	35dBm(3000mW)	32	18
FWAP-1550H-64x13		64	13
FWAP-1550H-64x14	36dBm(4000mW)	64	14
FWAP-1550H-128x10		128	0
FWAP-1550H-64x15	37dBm(5000mW)	64	15
FWAP-1550H-128x11		128	11
FWAP-1550H-64x16	38dBm(6000mW)	64	16
FWAP-1550H-128x12		128	12
FWAP-1550H-64x17	39dBm(8000mW)	64	17
FWAP-1550H-128x13		128	13
FWAP-1550H-64x18	40dBm(10000mW)	64	18
FWAP-1550H-128x14		128	14
FWAP-1550H-64x19	41dBm(13000mW)	64	19
FWAP-1550H-128x15		128	15
FWAP-1550H-64x20	42dBm(16000mW)	64	20
FWAP-1550H-128x16		128	16
FWAP-1550H-64x21	43dBm(20000mW)	64	21
FWAP-1550H-128x17		128	17
FWAP-1550H-64x22	44dBm(25000mW)	64	22
FWAP-1550H-128x18		128	18
FWAP-1550H-64x23	45dBm(32000mW)	64	23
FWAP-1550H-128x19		128	19

