

# HA5800B (2RU)FTTx PON Optical Amplifier (1540~1563nm)

## PRODUCT DESCRIPTION

HA5800B (2RU) series is a low noise, high performance, FTTx high power, multi-ports optical amplifier with gain spectrum band within 1540~1563nm. Each output port for optical amplifier has built-in well-performed CWDM. Every external up-link optical port of optical amplifier can connect with OLT PON port very conveniently. Each 1550nm (CATV)'s output optical port multiplex 1310/1490nm's data stream, in order to reduce the quantity of the component and improve the index and reliability of the system. HA5800B optical amplifier can be compatible with any FTTx PON Technology. It offers a flexible and low-cost solution for three-network integration and Fiber to the Home.



HA5800B has extremely low noise figure, the entire unit adopts twin-stage amplification, and the pre-amplifier adopts low noise EDFA, output cascade adopts high power EYDFA. When input optical power  $P_{in}=0\text{dBm}$ , the noise figure of unit is  $\leq 5.5\text{dB}$ . Unlike other kind of product which need high optical power input to maintain lower noise figure.

HA5800B optical amplifier adopts the world's top class pump laser and active 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.

HA5800B LCD at the front panel offers the work index of all equipment and warning alarms. The laser will switch off automatically if optical power is missing, which offers security protection for the laser. All the optical port of optical amplifier can be installed in the front panel or back panel.

HA5800B optional two-way optical input (built-in 2x1 optical switch), can be used for self-healing ring network or redundant backup network.

HA5800B with carrier-class reliability and network security management, high quality, high reliability and excellent cost performance and is ideal for system integrators and system operator.

HA5800B optical amplifier: 19" 2RU chassis, total output power up to 41dBm (13000mW), use LC/APC, offers 64 optical outputs at most, 64pcs uplink optical ports.

## PRODUCT FEATURE

- ▶ 1540~1563nm operating bandwidth for optical amplifier
- ▶ Each output optical port is with built-in high performance CWDM, single fiber three wavelengths, which can save optical fiber resources largely.
- ▶ Simplified machine-room links, improve the system reliability, and largely reduce the network maintenance cost
- ▶ Can compatible with any FTTx PON technology:  
EPON/GEAPON, GPON, XG(S)-PON
- ▶ Total output power optional 1260~13000mW ( 31~41dBm )
- ▶ 19" 2U rack up to optional 64 up-link ports, which used in OLT;  
And 64 1550nm output optical ports, multiplex the 1310/1490nm data stream.
- ▶ Built-in low noise pre-amplifier, not necessary EDFA cascade, extremely lower the CNR, MER degradation of the system
- ▶ Low noise figure  $\leq 5.5\text{dB}$
- ▶ Perfect RS232 ,SNMP
- ▶ Telecom level safety reliability and network management
- ▶ Efficient space, simple and reliable in construction/maintenance
- ▶ Optional dual optical input, built-in  $2 \times 1$  optical switch
- ▶ Dual power supply optional, 1+1 backup
- ▶ Can reduce the 98% device space usage
- ▶ Can reduce the 85% device purchase cost
- ▶ Can reduce 95% power consumption
- ▶ Industry's best price-performance

## MAIN APPLICATION

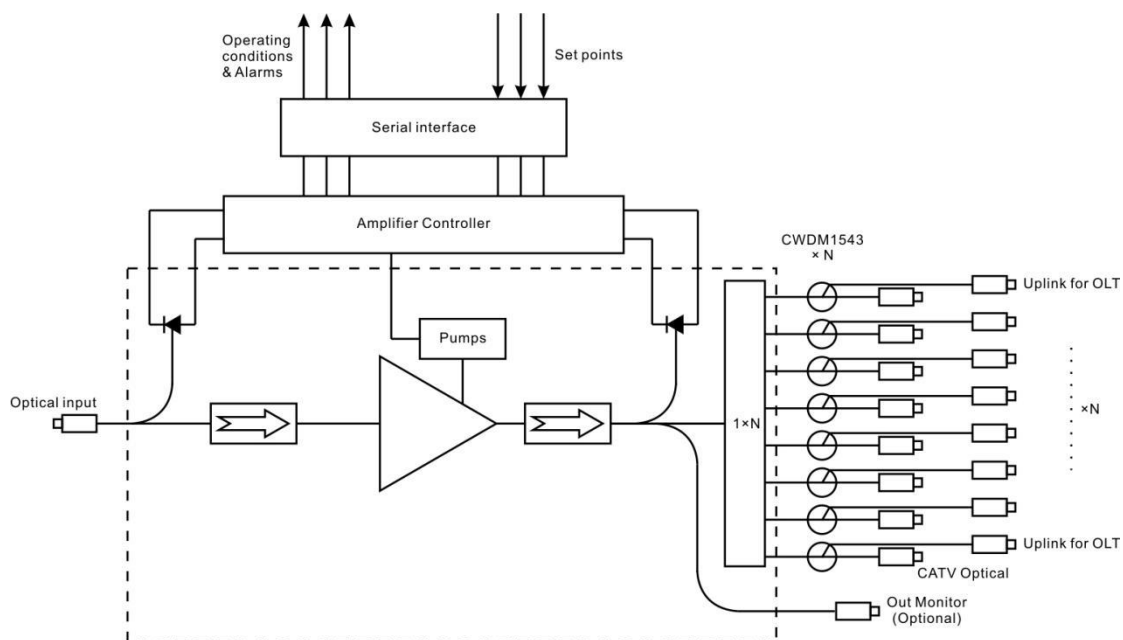
- ▶ FTTx PON
- ▶ RFoG

## TECHNIQUE INDEX

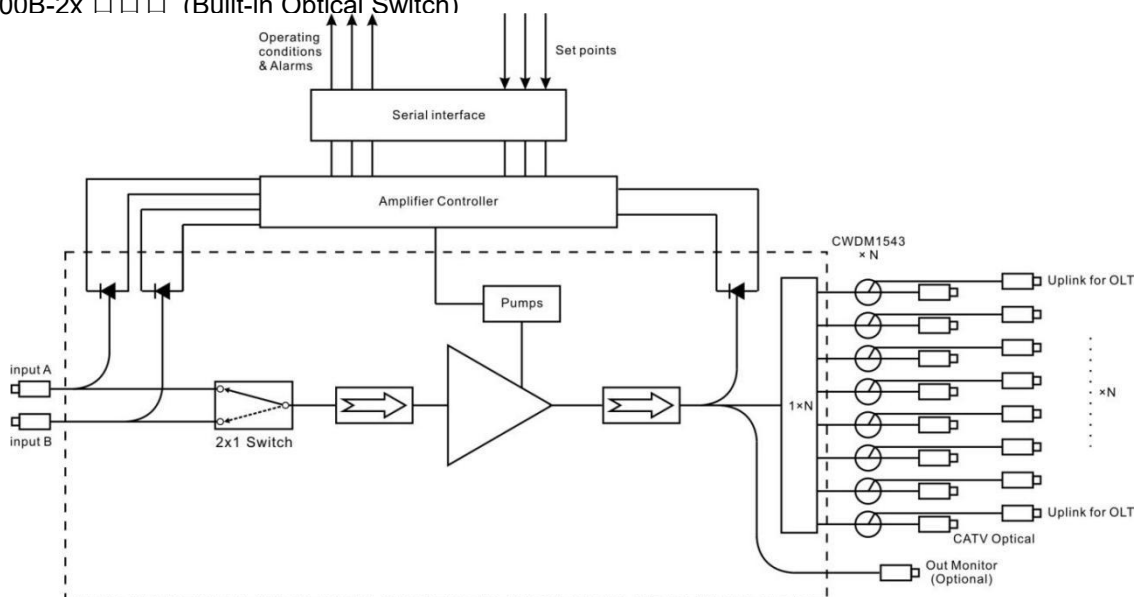
Performance			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	CATV operation wavelength	(nm)	1540		1563	CATV
	OLT pass wavelength	(nm)	1310/1490			HA5800B-WD1
			1270,1310,1490,1577			HA5800B-WD2
	CATV pass wavelength loss	(dB)			0.8	1550nm
	OLT pass wavelength loss	(dB)			0.8	1310/1490nm
	CATV & OLT isolation	(dB)	40			
	Number of uplink optical ports (for OLT)	(pcs)			64	
	CATV input power (Pi)	(dBm)	-10		+10	
	Total output power <sup>1)</sup>	(dBm)			41	
	Number of output ports	(pcs)			64	
	Each port output power	(dBm)	0		22	
	Difference of each output power	(dB)	-0.5		+0.5	
	Output optical power monitoring	(dB)		-20		Optional
	Output power adjustable range	(dBm)	-6		0	Optional
	Noise figure	(dB)		4.5	5.5	HA5800B-1x □□□
				5.0	6.0	HA5800B-2x □□□
	Switch time	(ms)			8.0	HA5800B-2x □□□
	Polarization dependence loss	(dB)			0.3	
	Polarization dependence gain	(dB)			0.4	
	Polarization mode dispersion	(ps)			0.3	
General feature	Input/output isolation	(dB)	30			
	Pump power leakage	(dBm)			-30	
	Echo loss	(dB)	55			APC
	Network management interface		RJ45			SNMP
	Serial interface		RS232			
	Power supply	(V)	90		265	220VAC
			30		72	-48VDC
	Power consume	(W)			84	
	Operation temp.	(°C)	-5		65	
	Storage temp.	(°C)	-40		80	
	Relative humidity	(%)	5		95	
	Size (W)×(D)×(H)	(")	19×14.7×3.5			HA5800B (2U)

## OPTIC/ELECTRICAL SCHEMA

HA5800B-1x □□□ (conventional)

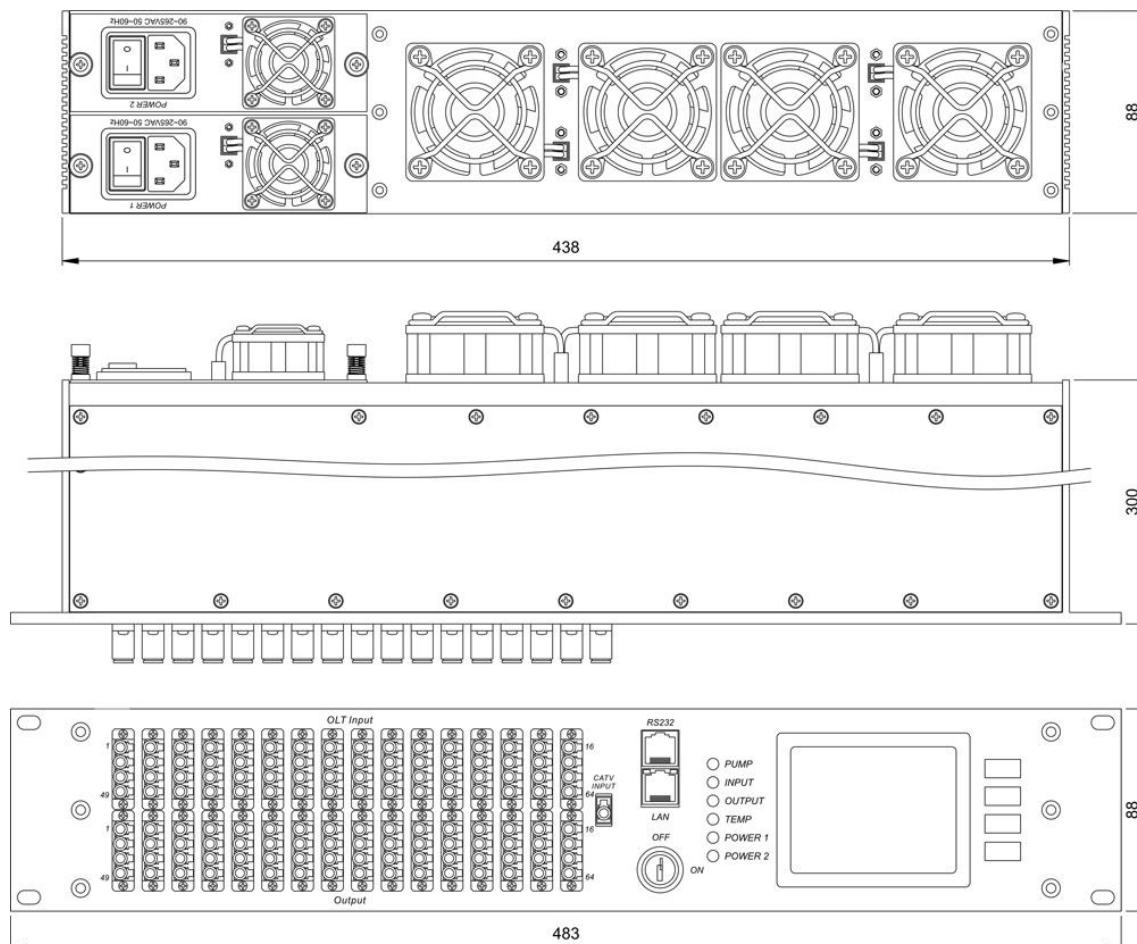


HA5800B-2x □□□ (Built-in Optical Switch)

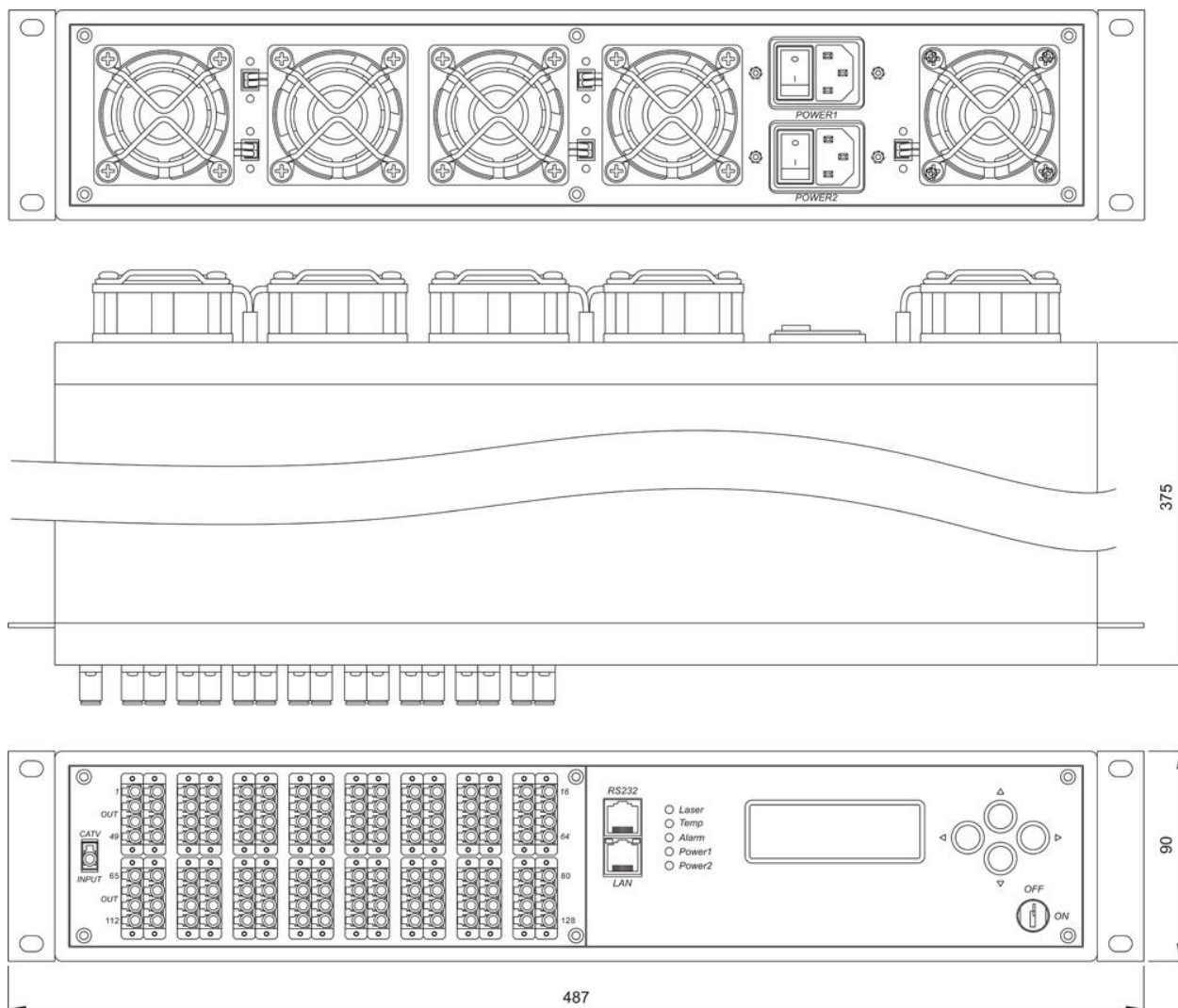


## CHASSIS SIZE CHART

### 2U HOT PLUG FRAME



## 2U FRAME



## PRODUCT SERIES

Model number	Total output power	Number of output	Each port output	Connector
HA5831B-1×032	31dBm (1260mW)	32	13.0	SC/APC、LC/APC
HA5831B-2×032				
HA5832B-1×032	32dBm (1600mW)	32	14.0	SC/APC、LC/APC
HA5832B-2×032				
HA5833B-1×032	33dBm (2000mW)	32	15.0	SC/APC、LC/APC
HA5833B-2×032				
HA5834B-1×032	34dBm (2500mW)	32	16.0	SC/APC、LC/APC
HA5834B-2×032				
HA5835B-1×032	35dBm (3200mW)	32	17.0	SC/APC、LC/APC
HA5835B-2×032				
HA5836B-1×016	36dBm (4000mW)	16	21.5	SC/APC、LC/APC
HA5836B-2×016				
HA5836B-1×032		32	18.0	SC/APC、LC/APC
HA5836B-2×032				
HA5837B-1×032	37dBm (5000mW)	32	19.0	SC/APC、LC/APC
HA5837B-2×032				
HA5837B-1×064		64	15.5	LC/APC
HA5837B-2×064				
HA5838B-1×032	38dBm (6300mW)	32	20.0	SC/APC、LC/APC
HA5838B-2×032				
HA5838B-1×064		64	16.5	LC/APC
HA5838B-2×064				
HA5839B-1×032	39dBm(8000mW)	32	21.0	SC/APC、LC/APC
HA5839B-2×032				
HA5839B-1×064		64	17.5	LC/APC
HA5839B-2×064				
HA5840B-1×032	40dBm(10000mW)	32	22.0	SC/APC、LC/APC
HA5840B-2×032				
HA5840B-1×064		64	18.5	LC/APC
HA5840B-2×064				
HA5841B-1×032	41dBm(13000mW)	32	23	SC/APC、LC/APC
HA5841B-2×032				
HA5841B-1×064		64	19.5	LC/APC
HA5841B-2×064				

## MODEL EXPLANATION

HA 5 8 □□ B - □ × □□□ - □□ - □ / □□ - M□□ - □□

Product series	Operating Wavelength		Product type		Total Output Power(dBm)		Exterior		Enter the port number		The output port number		Connector		Power mode		Power supply		Output Optical port Monitoring		WDM												
Amplifier of communication class	5	1540~1563nm	8	FTTx PON EDFA	31	31	B	2RU	1	Single input (Without Switch)	032	32 ports	LA	LC/APC	S	Single PS	22	220VAC	00	Without	WD1	With WDM											
					32	32	A	1RU			064	64 ports	LP	LC/UPC	D	Dual PS	48	-48VDC															
					33	33	C	3RU	2	Dual input (With Switch)			SA	SC/APC	P	Dual PS Hot plug	42	-48VDC &220VAC	MO	With output optical port monitoring	WD2	With WDM											
					34	34	E	5RU					SP	SC/UPC																			
					35	35																											
					36	36																											
					37	37																											
					38	38																											
					39	39																											
					40	40																											
					41	41																											

Note: WD1:Pass wavelength 1310/1490nm

WD2:Pass wavelength 1270/1310/1490/1577nm