1550nm CATV Erbium Doped Fiber Amplifier · HA5800C Series

Technical Specification

CONTENT

1.0   PRODUCT DESCRIPTION

HA5800C (3RU) series is a low noise, high performance, FTTP 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 1310/1490n's data stream, in order to reduce the quantity of the component and improve the index and reliability of the system.

HA5800C 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.

HA5800C 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 Pin=0dBm, the noise figure of unit is ≤5.5dB Unlike other kind of product which need high optical power input to maintain lower noise figure.

HA5800C 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.

HA5800C 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.

HA5800C optional two-way optical input (built-in 2x1 optical switch), can be used for self-healing ring network or redundant backup network.

HA5800C 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.

HA5800C optical amplifier: 19" 3RU chassis, total output power up to 45dBm (32000mW), use LC/APC, offers 128 optical outputs at most, 128pcs uplink optical ports.

2.0   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/GEPON, GPON
- Total output power optional 8000~32000mW（39~45dBm）
- 19" 3U rack up to optional 128 up-link ports, which used in OLT; And 128 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 ≤5.5dB
- 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 × 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

## 3.0   MAIN APPLICATION

- FTTx PON
- RFoG

4.0   Technique index

Performance			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	CATV operation wavelength	(nm)	1540		1563	CATV
	OLT pass wavelength	(nm)		1310/1490		
	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)			128	3U
	CATV input power (Pi)	(dBm)	-10		+10	
	Total output power[1]	(dBm)			45	
	Number of output ports	(pcs)			128	
	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	HA5800C-1x □□□
				5.0	6.0	HA5800C-2x □□□
	Switch time	(ms)			8.0	HA5800C-2x □□□
	Polarization dependence loss	(dB)			0.3	
	Polarization dependence gain	(dB)			0.4	
	Polarization mode dispersion	(ps)			0.3	
	Input/output isolation	(dB)	30			
	Pump power leakage	(dBm)			-30	
	Echo loss	(dB)	55			APC
General feature	Network management interface			RJ45		SNMP
	Serial interface			RS232		
	Power supply	(V)	90		265	220VAC
			30		72	-48VDC

Power consume	(W)			189	
Operation temp.	(°C)	-5		65	
Storage temp.	(°C)	-40		80	
Relative humidity	(%)	5		95	
Size (W)×(D)×(H)	(")		19×14.7×5.25		HA5800C（3U）

## 5.0   OPTIC/ELECTRICAL SCHEMA

5.1 HA5800C-1x □□□ (conventional)
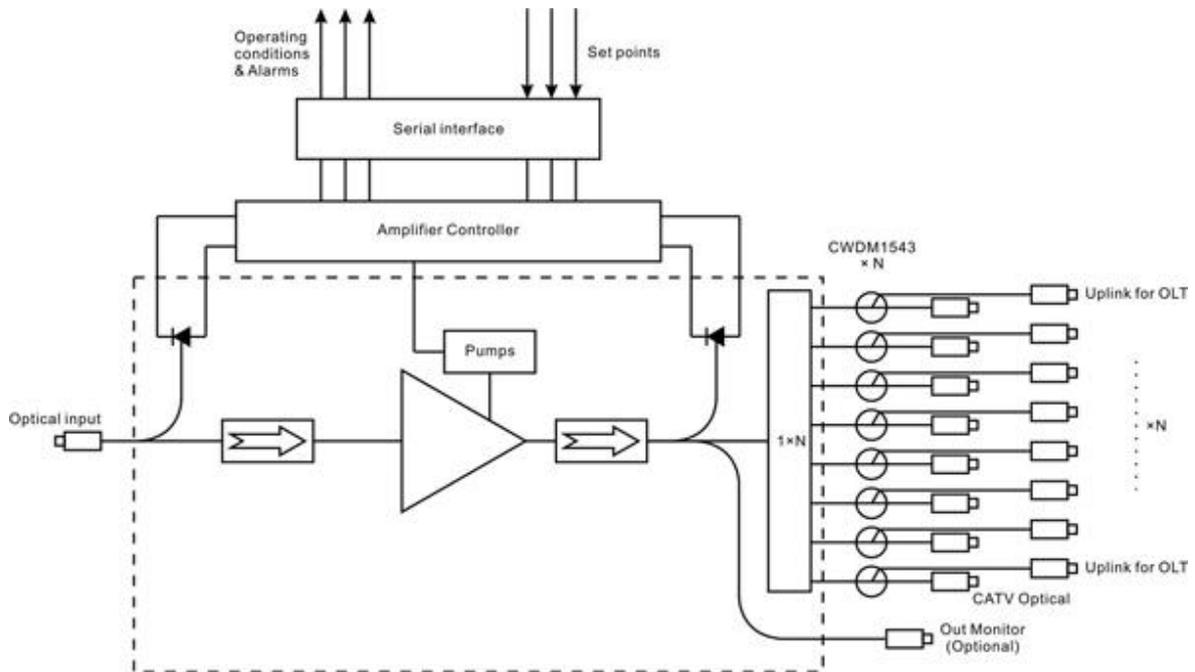
5.2 HA5800C-2x □□□ (Built-in Optical Switch)
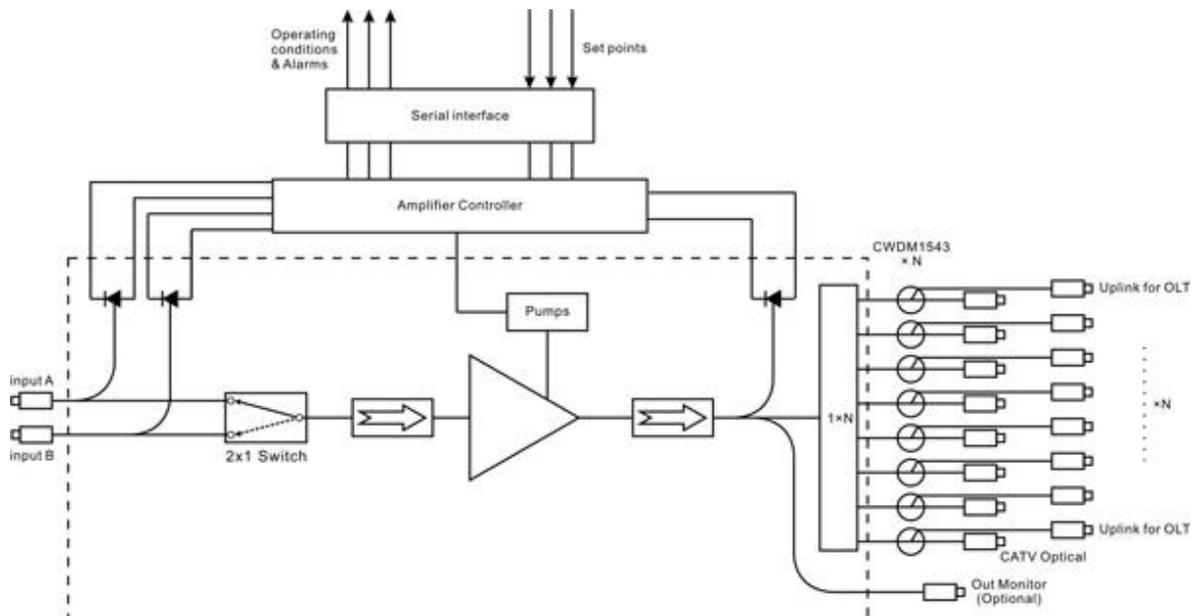
6.0   3U Chassis size chart
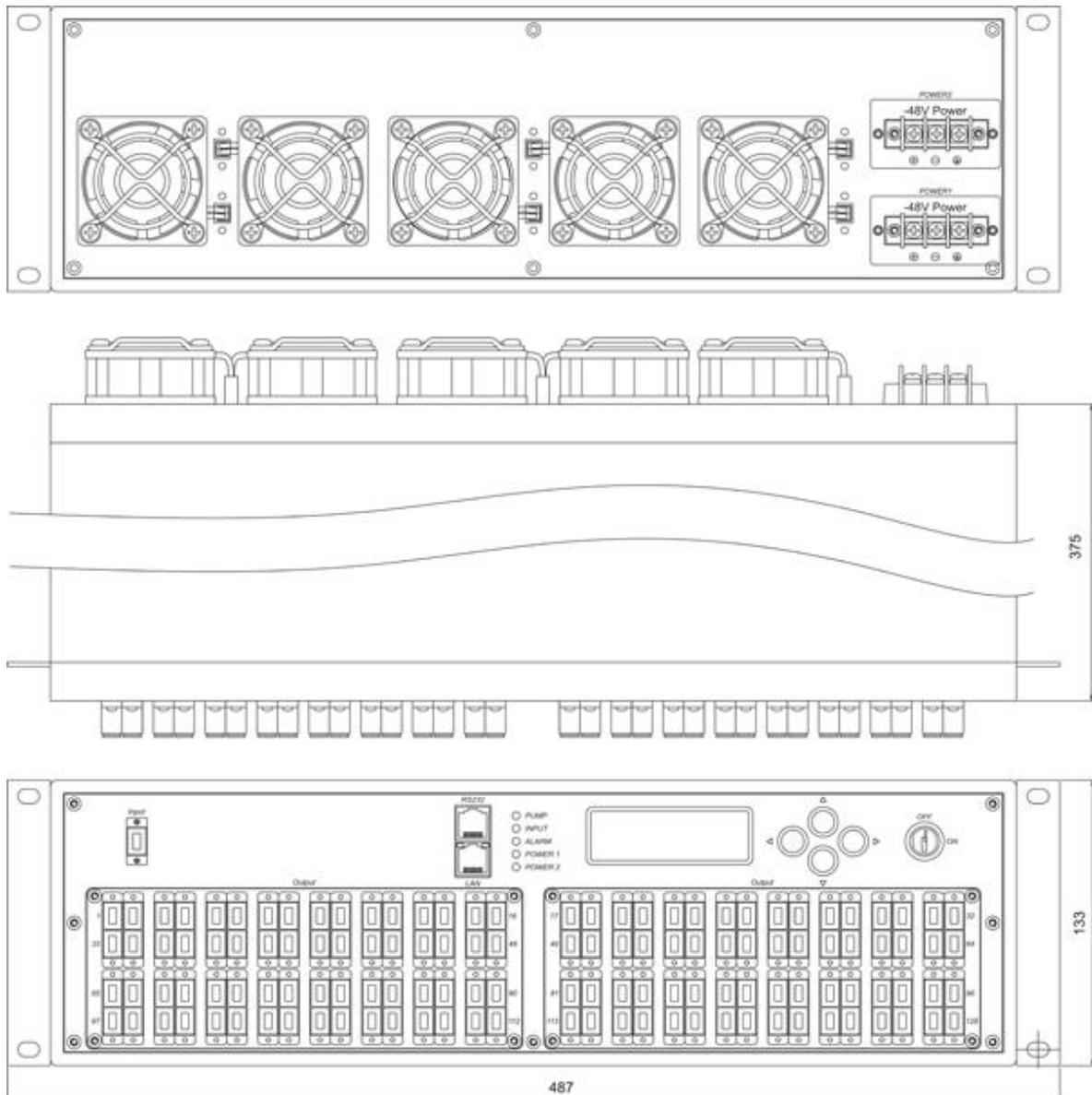
7.0   PRODUCT SERIES

Model number	Total output power	Number of output port	Each port output power	Connector
HA5839C-1×032	39dBm (8000mW)	32	21.0	SC/APC、LC/APC
HA5839C-2×032				
HA5839C-1×064		64	17.5	SC/APC、LC/APC
HA5839C-2×064				
HA5840C-1×032	40dBm (10000mW)	32	22.0	SC/APC、LC/APC
HA5840C-2×032				
HA5840C-1×064		64	18.5	SC/APC、LC/APC
HA5840C-2×064				
HA5840C-1×128		128	15.0	LC/APC
HA5840C-2×128				
HA5841C-1×064	41dBm (13000mW)	64	19.5	SC/APC、LC/APC
HA5841C-2×064				
HA5841C-1×128		128	16.0	LC/APC
HA5841C-2×128				
HA5842C-1×064	42dBm (16000mW)	64	20.5	SC/APC、LC/APC
HA5842C-2×064				
HA5842C-1×128		128	17.0	LC/APC
HA5842C-2×128				
HA5843C-1×064	43dBm (20000mW)	64	21.5	SC/APC、LC/APC
HA5843C-2×064				
HA5843C-1×128		128	18.0	LC/APC
HA5843C-2×128				
HA5844C-1×128	44dBm (25000mW)	128	19.0	LC/APC
HA5844C-2×128				
HA5845C-1×128	45dBm (32000nW)	128	20.0	LC/APC
HA5845C-2×128				

8.0   MODEL EXPLANATION

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Product series	Operating Wavelength		Product type		Total Output Power(dBm)		Exterior		Funciton		Enter the port number		The output port number		Connector		Power mode		Power supply		Output Optical port Monitoring	
Amplifier of communication class	5	1540~1563nm	8	FTTx PON EDFA	39	39	C	3RU	O	Without	1	Single input (Without Switch)	032	32 ports	LA	LC/APC	S	Single PS	22	220VAC	00	Without
					40	40	A	1RU	P	Optical power adj.			064	64 ports	LP	LC/UPC	D	Dual PS	48	-48VDC		
					41	41	B	2RU			2	Dual input (With Switch)	128	128 ports	SA	SC/APC	P	Dual PS Hot plug	42	-48VDC &220VAC	MO	With output optical port monitoring
					42	42	E	5RU							SP	SC/UPC						
					43	43																
					44	44																
					45	45																