1550nm CATV Erbium Doped Fiber Amplifier · HA5800A Series

Technical Specification

CONTENT

1.0   PRODUCT DESCRIPTION

HA5800A (1RU) 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.

HA5800A 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.

HA5800A 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.

HA5800A 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.

HA5800A 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.

HA5800A optional two-way optical input (built-in 2x1 optical switch), can be used for self-healing ring network or redundant backup network.

HA5800A 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.

HA5800A optical amplifier: 19" 1RU chassis, total output power up to 37dBm (5000mW), use LC/APC, offers 16 optical outputs at most, 16pcs 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 500~5000mW (27~37dBm)
- 1U rack up to optional 16 up-link ports, which used in OLT; And 16 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 $\leqslant$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 $\times$ 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

## 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)			16	
	CATV input power (Pi)	(dBm)	-10		+10	
	Total output power[1]	(dBm)			37	
	Number of output ports	(pcs)			16	
	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	HA5800A-1x □□□
				5.0	6.0	HA5800A-2x □□□
	Switch time	(ms)			8.0	HA5800A-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)			50	
Operation temp.	(°C)	-5		65	
Storage temp.	(°C)	-40		80	
Relative humidity	(%)	5		95	
Size (W)×(D)×(H)	(")	19×14.5×1.75			HA5800A（1U）

5.0 OPTIC/ELECTRICAL SCHEMA

5.1 HA5800A-1x□□□ (conventional)
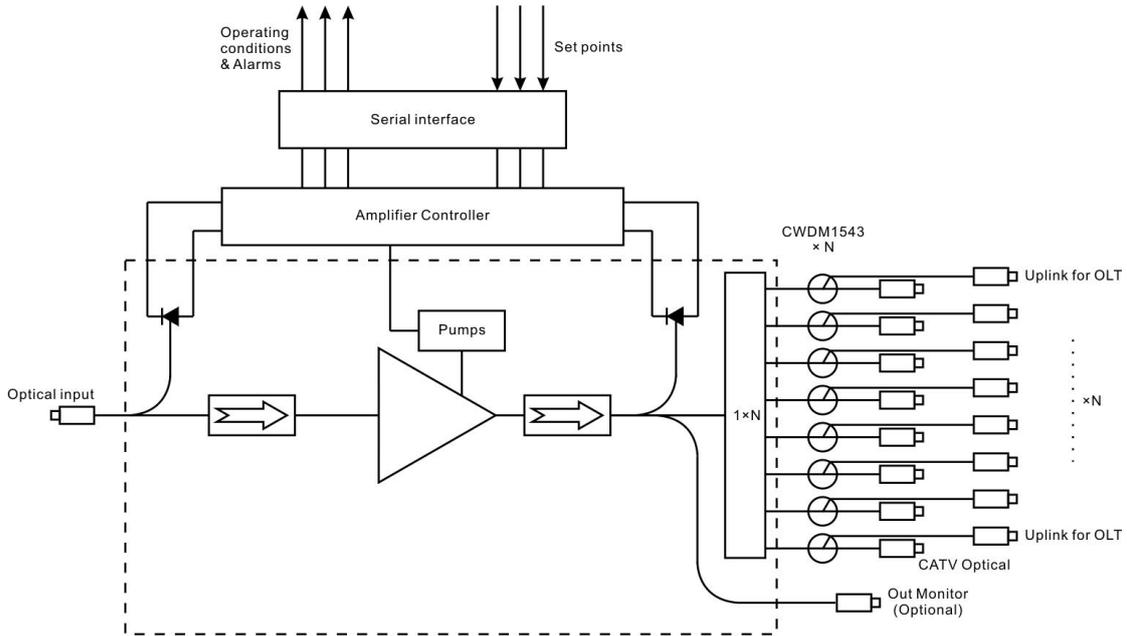
5.2 HA5800A-2x□□□ (Built-in Optical Switch)
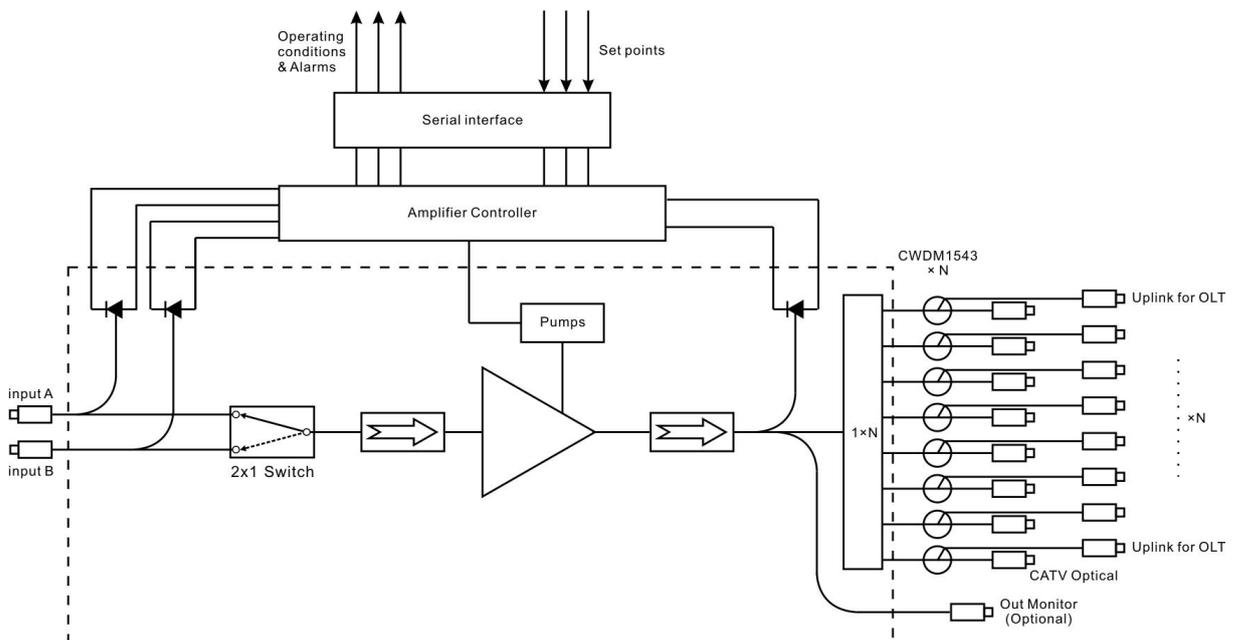
6.0   1U Chassis size chart
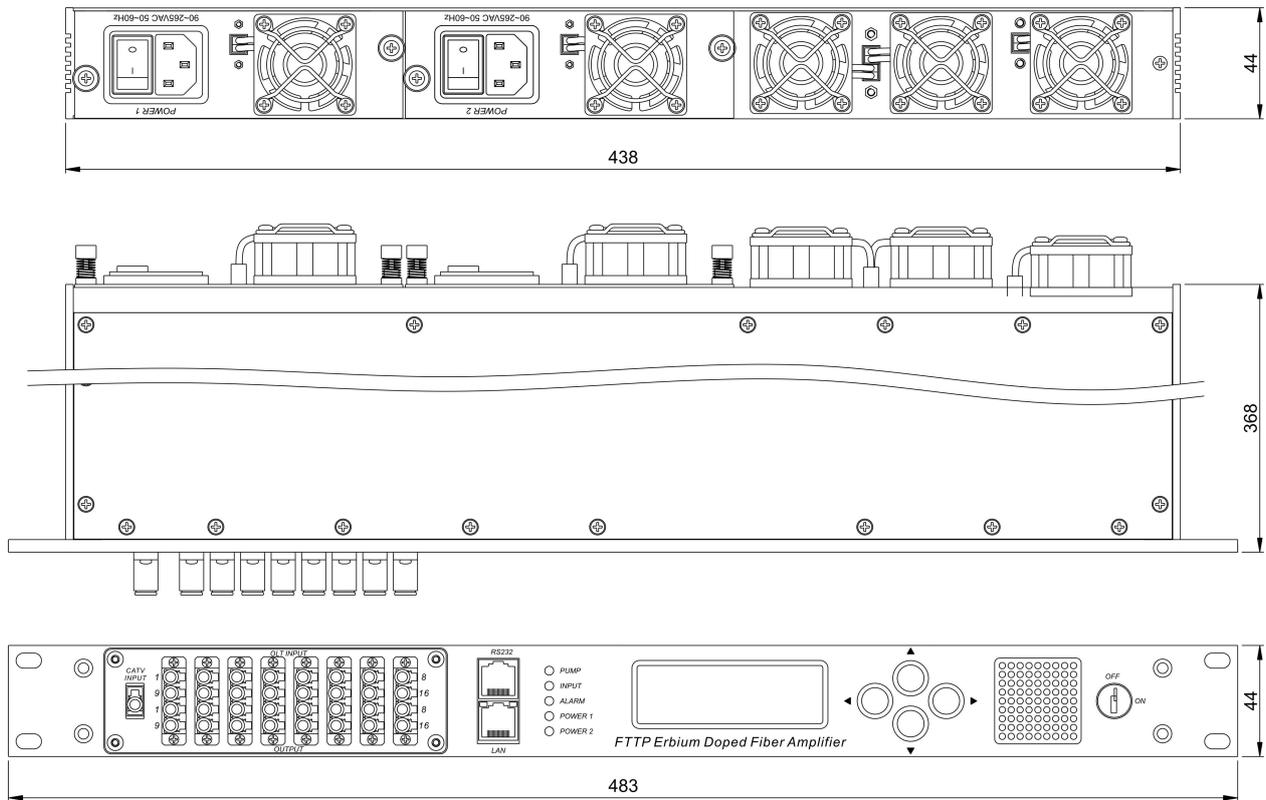
7.0   PRODUCT SERIES

| Model number	Total output power	Number of output port	Each port output power	Connector
HA5827A-1×008	27dBm (500mW)	8	16.0	SC/APC、LC/APC
HA5827A-2×008				
HA5828A-1×008	28dBm (630mW)	8	17.0	SC/APC、LC/APC
HA5828A-2×008				
HA5829A-1×008	29dBm (800mW)	8	18.0	SC/APC、LC/APC
HA5829A-2×008				
HA5830A-1×008	30dBm (1000mW)	8	19.0	SC/APC、LC/APC
HA5830A-2×008				

HA5830A-1×016		16	15.5	LC/APC
HA5830A-2×016				
HA5831A-1×008	31dBm (1260mW)	8	20.0	SC/APC、LC/APC
HA5831A-2×008				
HA5831A-1×016		16	16.5	LC/APC
HA5831A-2×016				
HA5832A-1×008	32dBm (1600mW)	8	21.0	SC/APC、LC/APC
HA5832A-2×008				
HA5832A-1×016		16	17.5	LC/APC
HA5832A-2×016				
HA5833A-1×008	33dBm (2000mW)	8	22.0	SC/APC、LC/APC
HA5833A-2×008				
HA5833A-1×016		16	18.5	LC/APC
HA5833A-2×016				
HA5834A-1×008	34dBm (2500mW)	8	23	SC/APC、LC/APC
HA5834A-2×008				
HA5834A-1×016		16	19.5	LC/APC
HA5834A-2×016				
HA5835A-1×008	35dBm (3200mW)	8	24	SC/APC、LC/APC
HA5835A-2×008				
HA5835A-1×016		16	20.5	LC/APC
HA5835A-2×016				
HA5836A-1×008	36dBm(4000mW)	8	25	SC/APC、LC/APC
HA5836A-2×008				
HA5836A-1×016		16	21.5	LC/APC
HA5836A-2×016				
HA5837A-1×008	37dBm(5000mW)	8	26	SC/APC、LC/APC
HA5837A-2×008				
HA5837A-1×016		16	22.5	LC/APC
HA5837A-2×016				

8.0   MODEL EXPLANATION

HA 5 8 □□ A – □   □ × □□□ – □□ – □ / □□ – M□□

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	27	27	A	1RU	O	Without	1	Single input (Without Switch)	008	8 ports	LA	LC/APC	S	Single PS	22	220VAC	00	Without
					28	28	B	2RU	P	Optical power adj.			016	16 ports	LP	LC/UPC	D	Dual PS	48	-48VDC		
					29	29	C	3RU			2	Dual input (With Switch)			SA	SC/APC	P	Dual PS Hot plug	42	-48VDC &220VAC	MO	With output optical port monitoring
					30	30	E	5RU							SP	SC/UPC						
					31	31																
					32	32																
					33	33																
					34	34																
					35	35																
					36	36																
					37	37																