Ver. 2.6en

1550nm CATV Erbium Doped Fiber Amplifier • HA5400C Series

Technical Specification

CONTENT

1.0 PRODUCT DESCRIPTION

HA5400C (3RU) series is a high power multi-ports optical amplifier with gain spectrum band within 1540~1563nm. It is mainly designed for the application of CATV or 1~8 continuous banding channel (ITU wavelength). It offers a flexible and low-cost solution for CATV large area coverage of metropolises and medium-sized cities.

HA5400C 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.

HA5400C 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 $\leqslant$ 5.5dB Unlike other kind of product which need high optical power input to maintain lower noise figure.

HA5400C 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.RS232 and RJ45 offer serial commutation and SNMP network management port. All the optical port of optical amplifier can be installed in the front panel or back panel.

HA5400C optional two-way optical input (built-in 2x1 optical switch), can be used for self-healing ring network or redundant backup network.

HA5400C 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.

HA5400C:19’’ 3RU rack, The total maximum output power of 45dBm (32000mW), optional output port up to 256 optional port.

2.0 PRODUCT FEATURE

- Total output power optional 8000~3200mW (39~45dBm)
- 19'' 3RU rack, optional output port up to 256 optional port.
- 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.
- Simplified machine-room links, improve the system reliability.
- 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
- The best cost performance in industry.

3.0 MAIN APPLICATION

- AM CATV
- Digital CATV
- DBS & MMDS
- FTTx PON

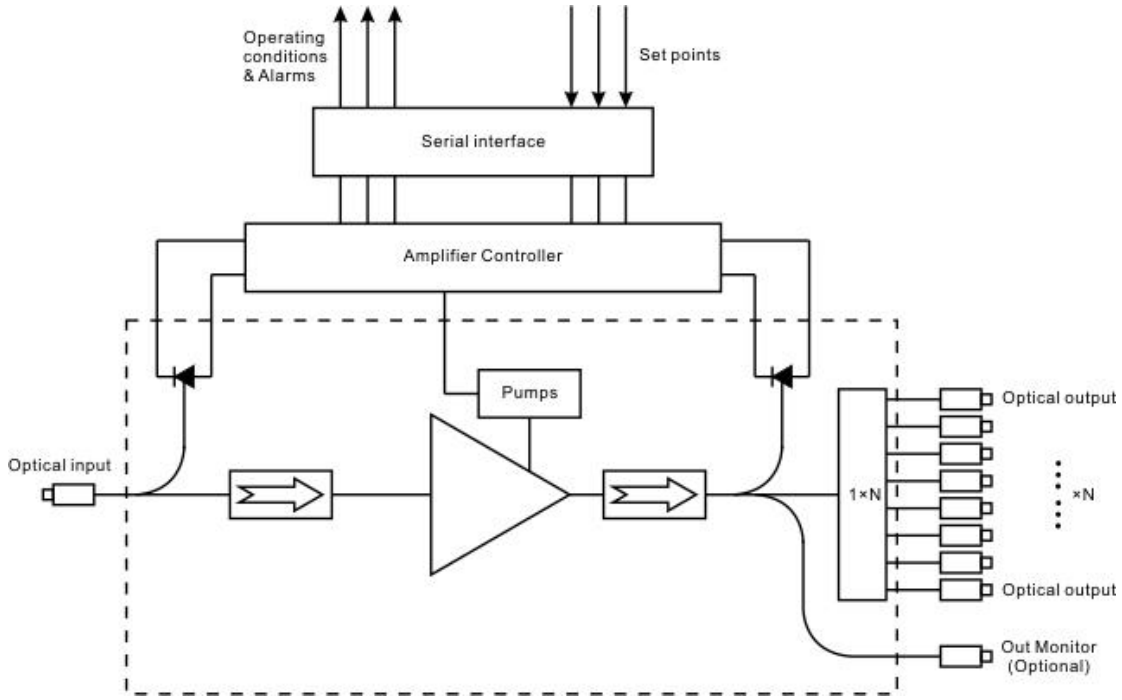
4.0 Technique index

Performance			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	Operating wavelength range	(nm)	1540		1563	CATV
	Input power	(dBm)	-10		+10	
	Total output power[1)]	(dBm)			45	
	Number of output ports				256	
	Each output power	(dBm)	0		22	
	Difference of output power	(dB)	-0.5		+0.5	
	Output optical power monitoring	(dB)		-20		Optional
	Output power adjustable range	(dBm)	-6		0	Optional
	Noise figure (Pin=0dBm)	(dB)		4.5	5.5	HA5400C-1x □□□
				5.0	6.0	HA5400C-2x □□□
	Switch time	(ms)			8.0	HA5400C-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
	Series interface		RS232			
	Power supply	(V)	90		265	220VAC
			30		72	-48VDC
	Power consume	(W)			189	
	Operating temp.	(°C)	-5		65	
	Storage temp.	(°C)	-40		80	
	Relative humidity	(%)	5		95	
	Size (W)×(D)×(H)	(")	19×14.7×5.25			3RU（19”）

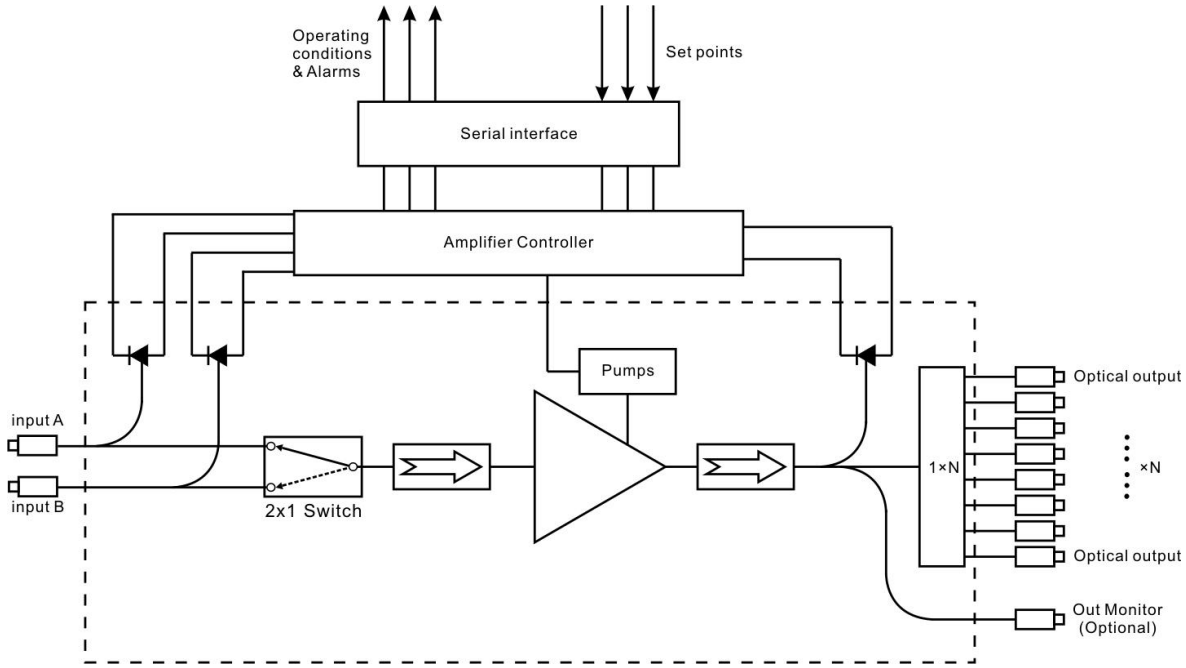
Remark: Output power can be customized by user.

5.0 OPTIC/ELECTRICAL SCHEMA

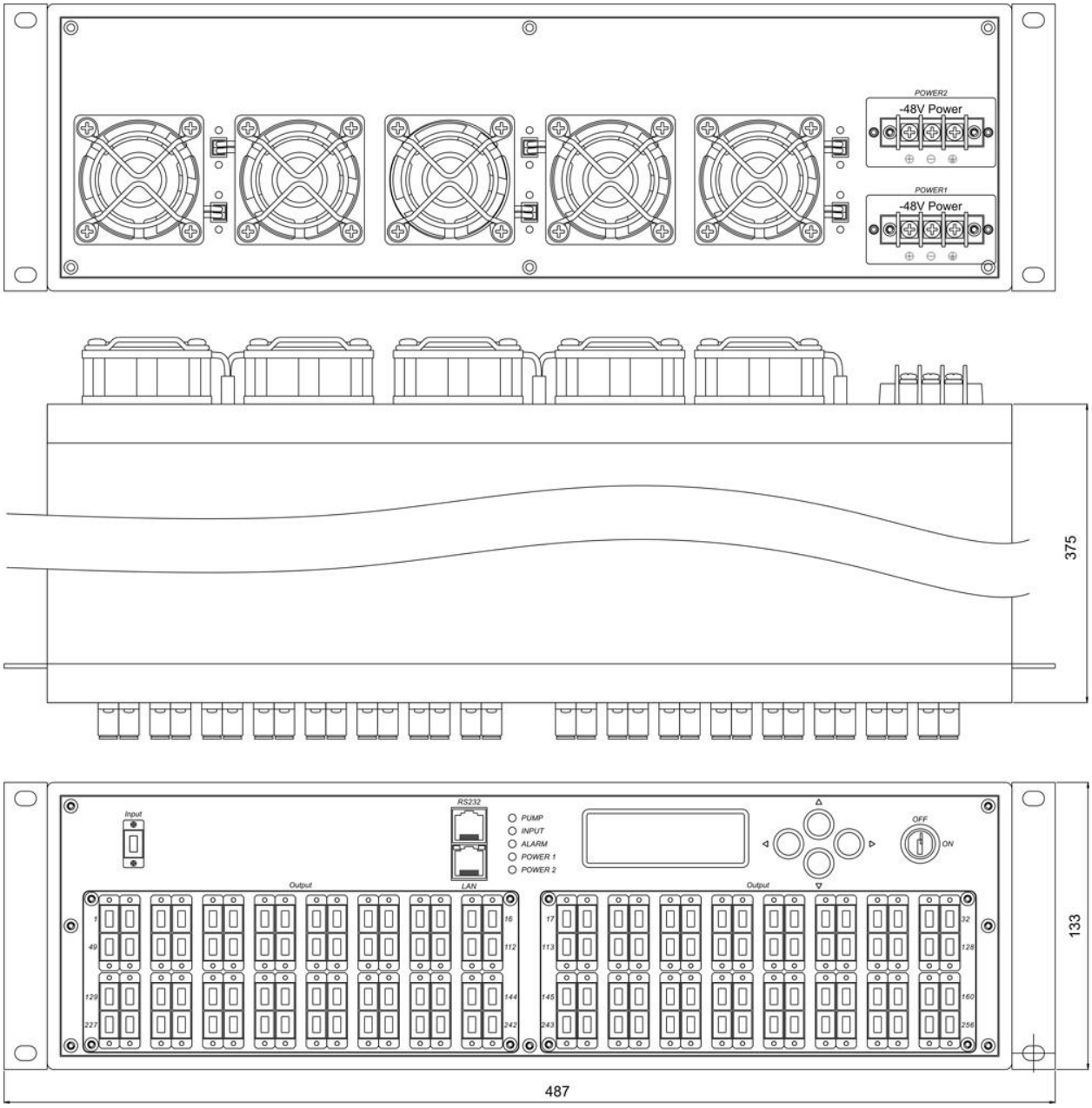
5.1 HA5400C-1x □□□ (conventional)



5.2 HA5400C-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
HA5439C-1×032	39dBm(8000mW)	32	21.5	SC/APC、LC/APC
HA5439C-2×032				
HA5439C-1×064		64	18.0	
HA5439C-2×064				
HA5440C-1×064	40dBm(10000mW)	64	19.0	SC/APC、LC/APC
HA5440C-2×064				
HA5440C-1×128		128	15.5	
HA5440C-2×128				
HA5441C-1×064	41dBm(13000mW)	64	20.0	SC/APC、LC/APC
HA5441C-2×064				
HA5441C-1×128		128	16.5	
HA5441C-2×128				
HA5442C-1×064	42dBm(16000mW)	64	21.0	SC/APC、LC/APC
HA5442C-2×064				
HA5442C-1×128		128	17.5	
HA5442C-2×128				
HA5443C-1×064	43dBm(20000mW)	64	22.0	SC/APC、LC/APC
HA5443C-2×064				
HA5443C-1×128		128	18.5	
HA5443C-2×128				
HA5444C-1×128	44dBm(25000mW)	128	19.5	SC/APC、LC/APC
HA5444C-2×128				
HA5444C-1×256		256	16.0	LC/APC
HA5444C-2×256				
HA5445C-1×128	45dBm(32000nW)	128	20.5	SC/APC、LC/APC
HA5445C-2×128				
HA5445C-1×256		256	17.0	LC/APC
HA5445C-2×256				

8.0 Model explanation

HA 5 4 □□ C – □ □ × □□□ – □□ – □ / □□ – 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	4	High-output Multi-port output	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					256	256 ports	SP	SC/UPC						
					43	43																
					44	44																
					45	45																