HA5400E (5RU)

High-power Multi-ports output CATV EDFA (1540~1563nm)

PRODUCT DESCRIPTION

HA5400E (5RU) 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.

HA5400E 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.

HA5400E 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.

HA5400E 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.

HA5400E optional two-way optical input (built-in 2x1 optical switch), can be used for self-healing ring network or redundant backup network.

HA5400E 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.

HA5400A:19'' 5RU rack, The total maximum output power of 49dBm (80000mW), optional output port up to 512 optional port.

PRODUCT FEATURE

- Total output power optional 40000~80000mW (46~49dBm)
- 19" 5RU rack, optional output port up to 512 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.

MAIN APPLICATION

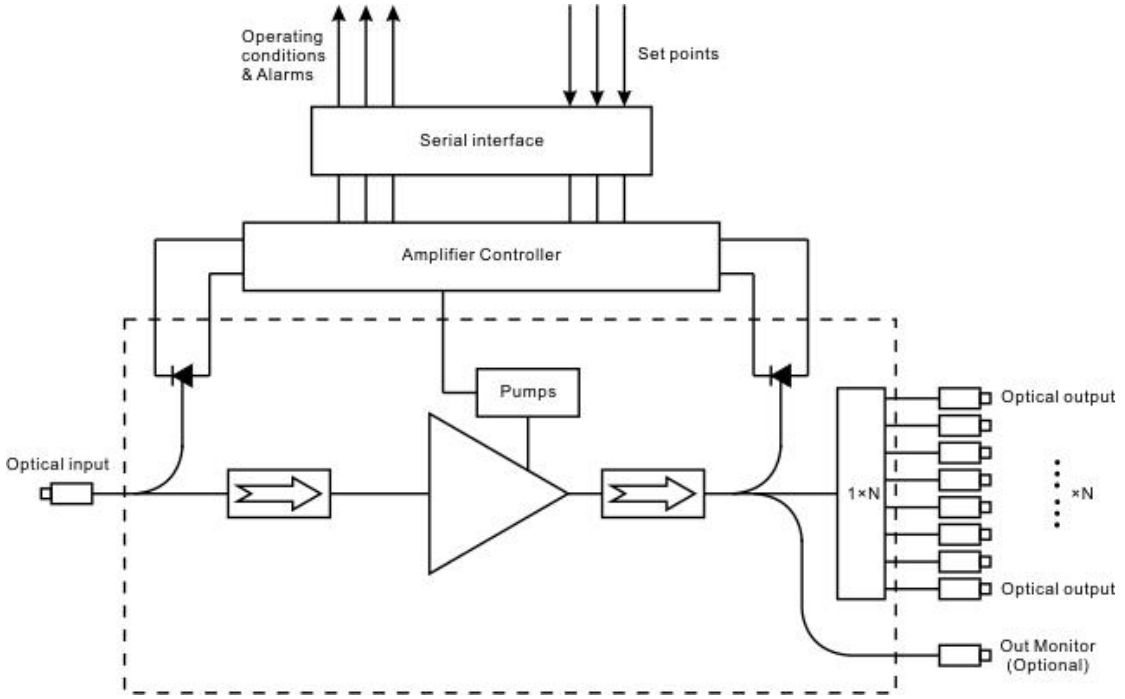
- AM CATV
- Digital CATV
- DBS & MMDS
- FTTx PON

TECHNIQUE INDEX

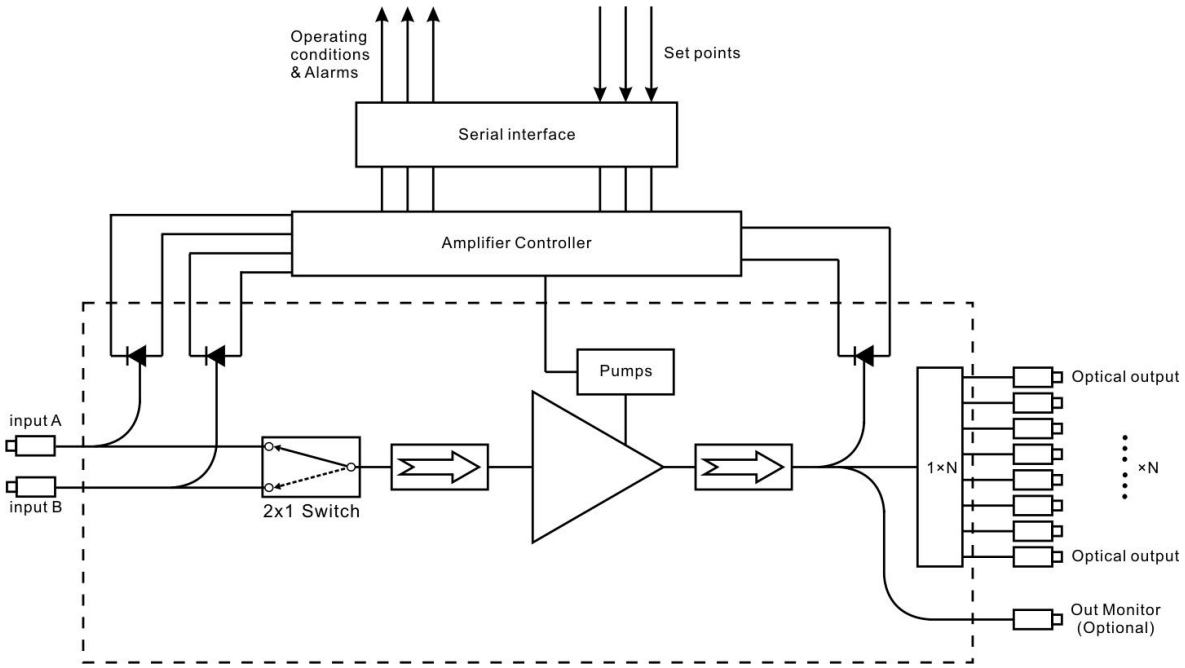
Performance			Index			Supplement
			Min.	Typ.	Max.	
Optical feature	Operating wavelength range	(nm)	1540		1563	CATV
	Input power	(dBm)	-10		+10	
	Total output power[1)]	(dBm)			49	
	Number of output ports				512	
	Each output power	(dBm)	0		22	
	Difference of output power	(dB)	-0.5		+0.5	
	Output optical power monitoring	(dB)		-20		Optional
	Output power adjustable range	(dBm)	-6		0	Optional
	Noise figure (Pin=0dBm)	(dB)		4.5	5.5	HA5800E-1x □□□
				5.0	6.0	HA5800E-2x □□□
	Switch time	(ms)			8.0	HA5800E-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)			289	
	Operating temp.	(°C)	-5		65	
	Storage temp.	(°C)	-40		80	
	Relative humidity	(%)	5		95	
	Size (W)×(D)×(H)	(")	19×14.7×8.25			5RU（19"）

OPTIC/ELECTRICAL SCHEMA

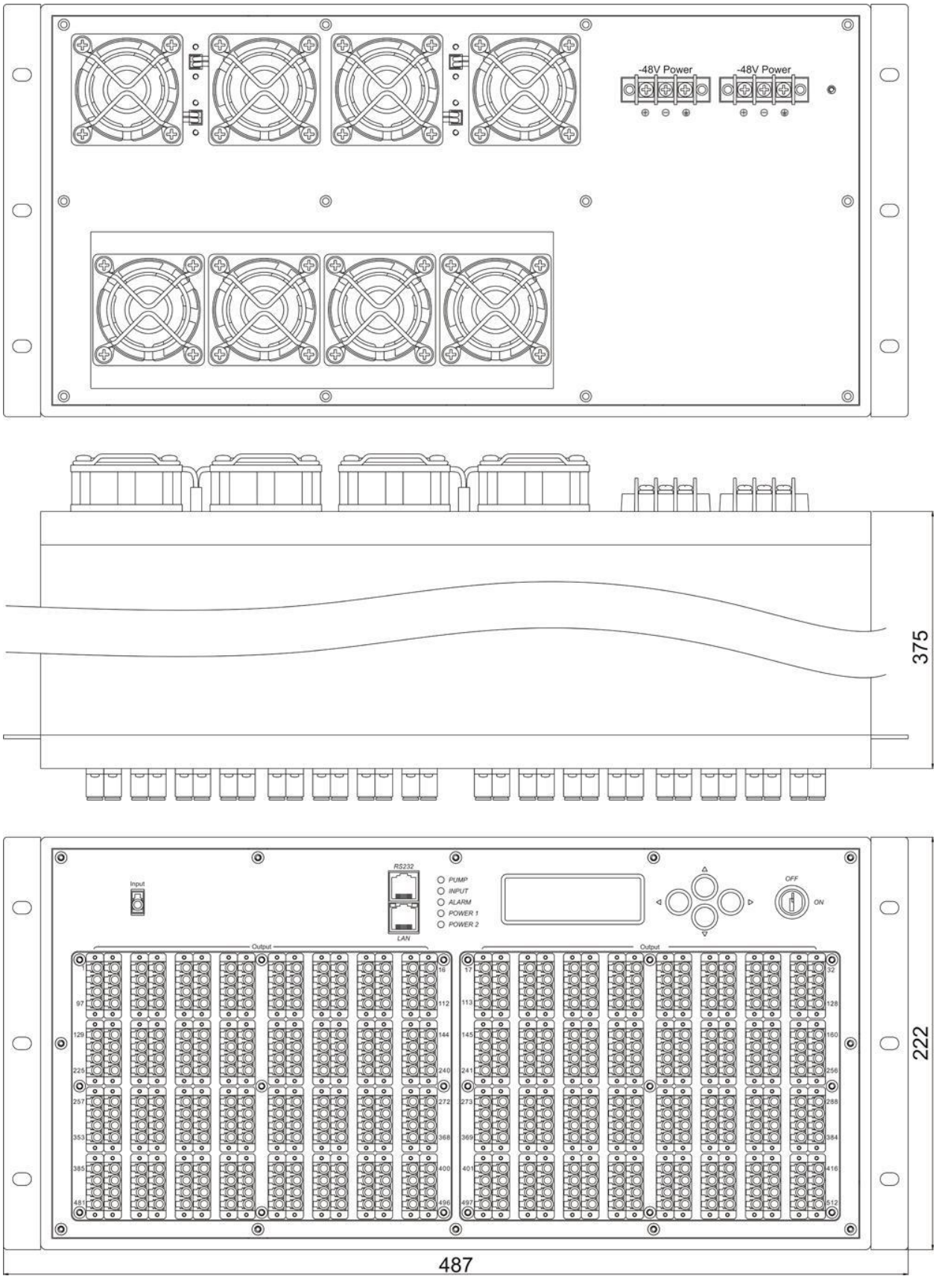
HA5400E-1x □□□ (conventional)



HA5400E-2x □□□ (Built-in Optical Switch)



5U Chassis size chart



PRODUCT SERIES

Model number	Total output power	Number of output port	Each port output power	Connector
HA5446E-1×128	46dBm(40000mW)	128	21.5	SC/APC、LC/APC
HA5446E-2×128				
HA5446E-1×256		256	18.0	
HA5446E-2×256				
HA5447E-1×256	47dBm(50000mW)	256	19.0	SC/APC、LC/APC
HA5447E-2×256				
HA5447E-1×512		512	15.5	LC/APC
HA5447E-2×512				
HA5448E-1×256	48dBm(64000mW)	256	20.0	SC/APC、LC/APC
HA5448E-2×256				
HA5448E-1×512		512	16.5	LC/APC
HA5448E-2×512				
HA5449E-1×256	49dBm(80000mW)	256	21.0	SC/APC、LC/APC
HA5449E-2×256				
HA5449E-1×512		512	17.5	LC/APC
HA5449E-2×512				

MODEL EXPLANATION

HA 5 4 □□ E – □ □ × □□□ – □□ – □ / □□ – 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	46	46	E	5RU	O	Without	1	Single input (Without Switch)	128	128 ports	LA	LC/APC	S	Single PS	22	220VAC	00	Without
					47	47	A	1RU	P	Optical power adj.			256	256 ports	LP	LC/UPC	D	Dual PS	48	-48VDC		
					48	48	B	2RU			2	Dual input (With Switch)	512	512 ports	SA	SC/APC	P	Dual PS Hot plug	42	-48VDC &220VAC	MO	With output optical port monitoring
					49	49	C	3RU							SP	SC/UPC						