C-band variable gain fiber amplifier (optical power23dB gain range 29~41dB)

Product Description

Idealphotonics' MP4700 series is a next generation variable gain fiber amplifier, which is a variable gain fiber amplifier with excellent performance and complete functions on the market today. It adopts the current excellent optical performance, advanced electronic technology, and complete software functions. Excellent transient suppression technology and thermal management control technology enable many complex optical functions to be realized. It is a versatile fiber amplifier commonly used in the market today. The next generation variable gain fiber amplifier consists of a variable gain preamplifier (PA) and a variable gain power amplifier (BA), two-stage amplifier. The gain of the two-stage amplifier can be set independently within a certain range. There is an access connector between the two-stage amplifier, which can be used for mid-stage access, such as optical add/drop multiplexing module (OADM), dispersion compensation module (DCM) and other application optical modules. MP4700 is a version with mid-stage access. The product meets the communication technology requirements of C-Band 44-wavelength or 88-wavelength DWDM system and is widely used in long-distance and ultra-long-distance transmission networks. With its complete functions, it can be used as a line amplifier, preamplifier, power amplifier, and add-drop multiplexing amplifier.

Part Number

MPA4723-G40-M00-S00

Product features

Next generation variable gain amplifier、 With intermediate access version、

Adopt digital control technology that adapts to thermal management 、 Intermediate version can be set up as separate preamplifier and power amplifier、 Saturated output power can be selected as 18dBm, 20dBm, 23dBm、

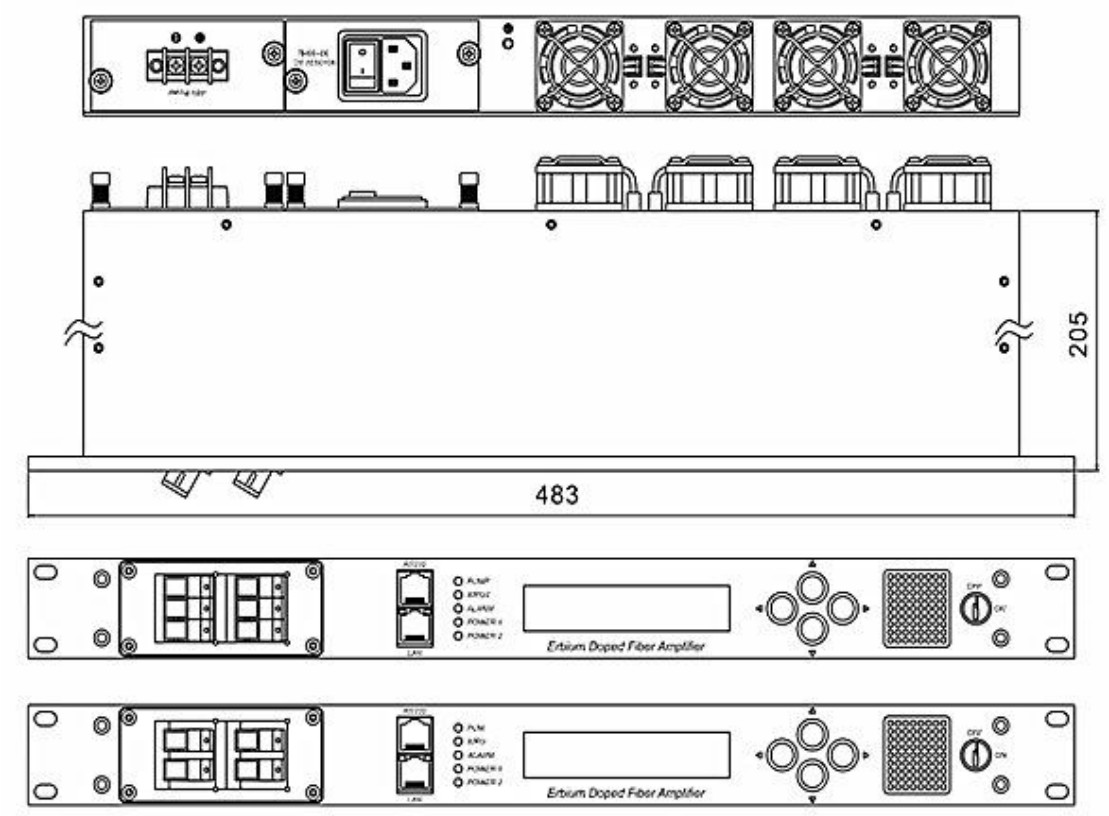
AGC, APC, ACC working modes、 SNMP network management function、

RS232 command interface 、 Optional optical monitoring channel OSC Add/Drop 、 Carrier-level security, reliability and network management functions、 Low power consumption、 1+1 power backup, supports hot swap、 Excellent performance-price ratio in the industry

Application area

OADM optical add/drop multiplexing、 DCM ultra-long trunk line dispersion compensation、 ASON Intelligent Optical Network、 ROADM reconfigurable optical add/drop multiplexing、Long-distance and ultra-long-distance networks between cities 、 Line amplifier, preamplifier, power amplifier, add/drop multiplexer amplifier

Dimensional Drawing



General Parameters

Performance			Index			Replenish
			Min	Type	Max	
Optical properties	Working wavelength range (λ)	(nm)	1529.16		1563.86	ITU 88CH
	Input optical power range1)	(dBm)	-35		+3	MPA4718 Typical Values
			-35		+3	MPA4720 Typical Values
			-40		0	MPA4723 Typical Values
			-40		0	MPA4724 Typical Values
	Gain range2)	(dB)	13		21.5	G21 Typical Value
			18		30	G30 Typical Value
			23		35	G35 Typical Value
			29		41	G40 Typical Value
			12		24	G25 Typical Value
	Intermediate insertion loss range3)	(dBm)	0		8	MPA4718
			0		10	
			0		12	
	Maximum output optical power4)	(dBm)			18.5	MPA4718
					20	MPA4720
					23	MPA4723
					24	MPA4724
	Gain Flatness	(dB)		0.7	1.0	Peak-to-peak
	Noise Figure	(dB)		5.0	5.9	Max. gain

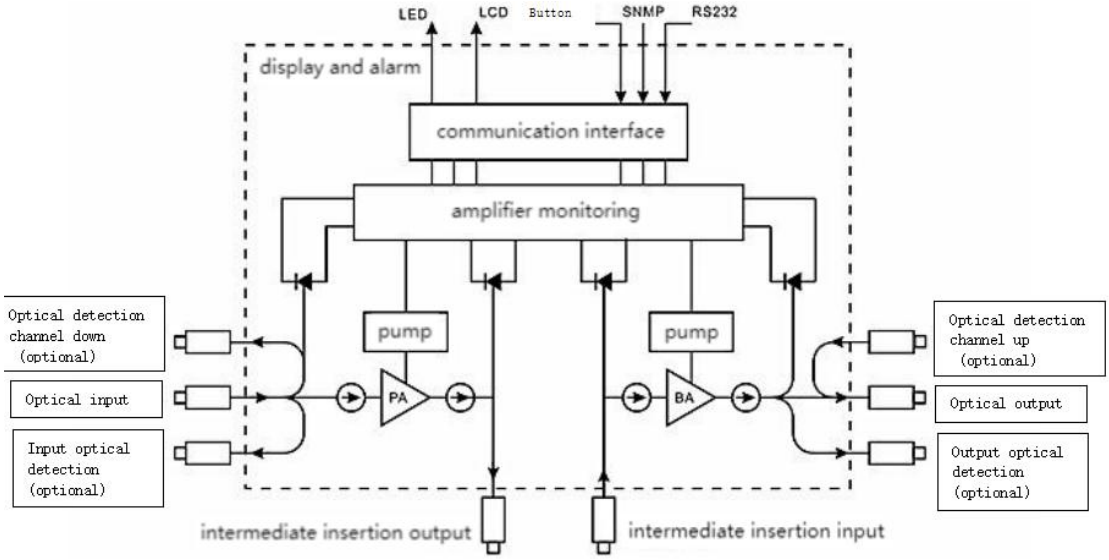
	Polarization Dependent Loss	(dB)			0.3	
	Polarization Dependent Gain	(dB)			0.3	
	Polarization Mode Dispersion	(ps)			0.3	
	Pump light leakage	(dBm)			-30	
	Reflection loss5)	(dB)	40			UPC
	Monitoring channel wavelength range	(nm)	1500	1510	1520	
Transient characteristics	Transient suppression time	(μ s)			500	
	Transient overshoot	(dB)	1.5		1.0	16dB Add/Drop
	Transient gain change	(dB)			0.5	16dB Add/Drop
General Features	SNMP network management interface		RJ45			
	Communication interface		RS232			
	Powered by	(V)	90		265	220VAC
			30		72	-48VDC
	Power consumption	(W)			25	
	Operating temperature	(℃)	0		70	
	Storage temperature	(℃)	-40		85	
	Working relative humidity	(%)	5		95	
	Dimensions (W)×(D)×(H)		483×205×44 (mm)			

Note:
1, 2, 3, 4: These optical performances are for a typical application and can be customized according to customer needs;
5: Optional APC, reflection loss> 50dB

Function, detection and alarm:

Function	Firmware Upgrade
	Automatic shutdown
	Variable Gain Control Mode (VGA) (with power limiting)
	The working mode of each level can be set independently (when there is intermediate access)
	Output Power Control Mode (APC)
	Pump current control mode (ACC)
	Eye-safe power mode
	Non-volatile event log
Monitor	Total input power
	Total output power
	Backlight power (reflected light power)
	Pump status
	Chassis temperature
Alarm	Signal loss alarm
	Low output alarm
	Chassis temperature warning
	Pump temperature alarm
	Pump current alarm
	Excessive reflected optical power alarm (optional)

Photoelectric diagram:



Model

Model	Maximum output power(dBm)	Gain range typical value (dB)	Input power range typical value (dBm)	Intermediate insertion loss (dB)	Detection optical port mode	OSC optical port mode
MPA4718-G21-M00-S00	18.5	13~21.5	+3~-30	0~8	none	none
MPA4718-G30-M00-S00		18~28	+3~-35	0~10		
MPA4718-G35-M00-S00		23~35	0~-35	0~12		
MPA4718-G40-M00-S00		28.5~40.5	+3~-30	0~12		
MPA4720-G30-M00-S00	20	18.5~30.5	+3~-35	0~12		
MPA4720-G35-M00-S00		23~35	0~-35			

MPA4720-G40-M00-S00		29~41	+3~-35			
MPA4723-G30-M00-S00	23	19~31	0~-35	0~12		
MPA4723-G35-M00-S00		25~37	0~-37			
MPA4723-G40-M00-S00		29~41	0~-40			
MPA4724-G35-M00-S00	24	25~37	0~-37	0~12		
MPA4724-G40-M00-S00		30.5~42.5	0~-40			

Remark:

1) Detection optical port mode options: 1. MO (with output monitoring optical port); 2. MI (with input monitoring optical port); 3. MIO (with input and output monitoring optical port)

2) Optical management channel OSC optical port mode options: 1. OD (OSC / Drop); 2. OA (OSC / Add); 3. ODA (OSC / Drop & Add)