

RAMAN FIBER AMPLIFIER

1. Product Description

The optical-electric module design of Raman fiber amplifier is used in the fields of extra long distance optical transmission system and optical signal amplification of dense wavelength division multiplex (DWDM) optical transmission system, which can extend the transmission distance.

The modules adopt the combined wave technology of multi-pumped laser, and they can realize the inner gain flatness and low noise optical signal amplification in the range of C wave band by the combination of different types of pump laser and the matching of fiber types. In order to realize the security of Raman amplifier to guarantee the personal safety, the modules design the automatic shutdown functions for the pump laser, which can turn off the output of laser automatically according to different types of incidents, such as fiber cut, line aging and so on. There are drive circuit and logic control circuit within the modules, which can monitor the key information in time such as temperature of pump laser and the temperature of module. All the status parameters can be adjusted and monitored flexibly by PC terminal master software. Besides, the factory-fresh presupposed status parameters of modules are set according to the specific order symbols or the requirements of customers. We can provide products with various Package sizes, such as module, Benchtop and rack-mounted, to meet the needs of customers.



2. Features

High output optical power

High reliability and stability

Excellent thermal adaptability: -20~60°C;

Module Benchtop, table model and rack-mounted structures are optional

Higher optical signal-to-noise ratio

3. Applications

Distributed Raman amplification

Distributed optical fiber sensing

Unrepeated long haul optical fiber communication trunk

40G, 100G high-speed optical fiber communication system

4. Optical property indexes

Parameter	Unit	Minimum	Typical Value	Maximum
The range of pump wavelength	nm	1425	-	1495
The output power of pump laser	mW	300	500	700

Raman gain	dB	6	12	17
Polarization mode dispersion	ps	-	-	0.5
Polarization dependent gain	dB	-	-	0.5
Operating temperature range	°C	-20	-	+60
Storage temperature range	°C	-40	-	+70
Relative humidity	%	5	-	90

5. Mechanical structure

Mechanical structure

Structure type	Parameter	Specification	Unit	Remark
Module	Dimension	150x125x30.5	mm	The size can be customized
	The type of power interface	DC+5V/GND duplet		Typical
	The type of output tail fiber	SM		Customized
	The type of Communication interface	RS232 serial port		Customized
Table model	Structure size	260.6x126.8x76	mm	
	The type of power interface	N-L-C AC220V power supply interface		
	Optical output interface	FC/APC type of connectors		Customized
	The type of Communication interface	Console connector or RJ45 internet access		
	Cooling fan	1	PCS	
Rack-mounted	Structure size	1U		
	The type of power interface	N-L-C AC220V power supply interface		
	Optical output interface	FC/APC type of connectors		Customized
	The type of Communication interface	Console connector or RJ45 internet access		
	Cooling fan	4	PCS	

6. Electrical Properties

Structure Type	Parameter	Specification	Unit	Remarks
Module	Power supply	DC +5V/GND		
	Power consumption	<30	W	At normal temperature
Table model	Power supply	AC 220V		
	Power consumption	<50	W	At normal temperature
Rack-mounted	Power supply	AC 220V or DC48V		
	Power consumption	<50	W	At normal temperature

7. Communication type

Structure type	Parameter	Specification
Module	Communication interface	26Pin 2.00 separation distance serial port
	Protocol	RS232
	Communication user interface	Can read or set optical output power
Table model	Communication interface	Ethernet or RS232-Console
	Protocol	RS232
	Communication user interface	GUI
Rack-mounted	Communication interface	Ethernet or RS232
	Protocol	SNMP or RS232
	Communication user interface	GUI