

1.0um High Power Single Frequency Polarization Maintaining Fiber Amplifier

Product Description:



The MARS series high power single frequency polarization maintaining fiber amplifiers of Connet are designed specifically for the ultra-narrow linewidth single frequency laser source, such as the fiber lasers based on the principle of DFB or DBR. This kind of amplifier has the capability of boosting the low power optical signal at kHz level up to 100W output power and meanwhile preserves the spectral property of the input signal. The MARS series amplifiers use the high power, high-performance, multi-mode pumps internally, employ the technology of double cladding fiber amplification, and have the integrated design in all polarization-maintaining structure. The output power can be continuously tunable. The MARS series fiber amplifiers are the integral Turn-Key system with the microprocessor inside for controlling. The front panel is equipped with the switch to start the laser, the LCD to display the state of the power and the knob to adjust the output power.

With the extensive experience in handling the double cladding fiber, Connet conducts the proper optimal design for the high power polarization maintaining fiber amplifiers to achieve the high efficiency output and meanwhile suppress the nonlinear effects of the fiber. The unique thermal treatment technology guarantees that the benchtop fiber amplifier can be operated stably for a long time. The high-speed response protection circuit monitors the power of the input and the output signals automatically so that it can cut down the operation of the high power pump in case of the falling off of the input signal to ensure the safety of the whole system.

Connet MARS series high power benchtop polarization-maintaining fiber amplifiers can be widely used in scientific research, coherent beam combining, coherent detection and fiber sensing system, etc.

Applications:

- Coherent detection
- Coherent combining
- Atomic cooling and trapping
- Fiber sensing
- Frequency doubling

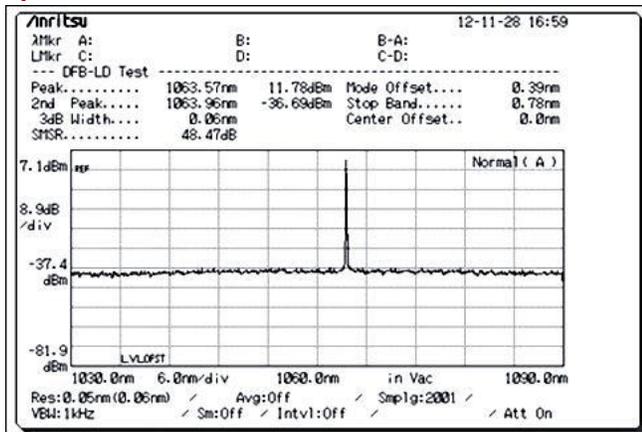
Features:

- High output power: 100W
- Low noise figure
- Turn-Key system
- All PM fiber structure, high PER
- High stability, high reliability

Specifications:

Parameter	Unit	Specification				
		Min		Typ.		Max
Part no.		MFAP-Yb-1-SF	MFAP-Yb-10-SF	MFAP-Yb-20-SF	MFAP-Yb-50-SF	MFAP-Yb-100-SF
Operating wavelength ¹	nm	1040~1090				
Input power	mW	≥1				
Output power ²	W	1	10	20	50	100
Polarization		Linear Polarization				
Input isolation	dB	≥30				
Output isolation	dB	≥30				N/A
Optical Signal Noise Ratio (OSNR)	dB	≥50				
Output power tunable range	%	10~100				
Polarization Extinction Ratio (PER)	dB	≥20		≥17		≥15
Output power stability ³ (8hrs)	%	≤±2				
Beam quality	M ²	≤1.1		≤1.2	≤1.3	≤1.5
Input fiber type		PM980				
Output fiber type		PM980	PLMA fiber			
Output fiber length	m	>1				
Optical connector		FC/APC or Collimator (other optional)				
Power supply	V _{AC}	100~240				
Operating temperature	°C	0~+30				
Storage temperature	°C	-40~+ 85				
Cooling mode		Air-Cooling				
Dimension		19" 2U			19" 3U	

Spectrum:



Specifications:

- Typical operating wavelength: 1053nm, 1064nm, 1083nm
- Typical output power: 1W, 10W, 20W, 50W, 100W
- The output power stability is measured under 25°C after 30 minutes' warm-up.

Ordering Information:

- MFAP-Yb-10xx-B-PW-SF: PM
- 10xx: Operating wavelength in nm
- B: Benchtop
- PW: Output power in W, e.g.: 0.5-0.5W, 1-1W, 10-10W
- SF: Single Frequency