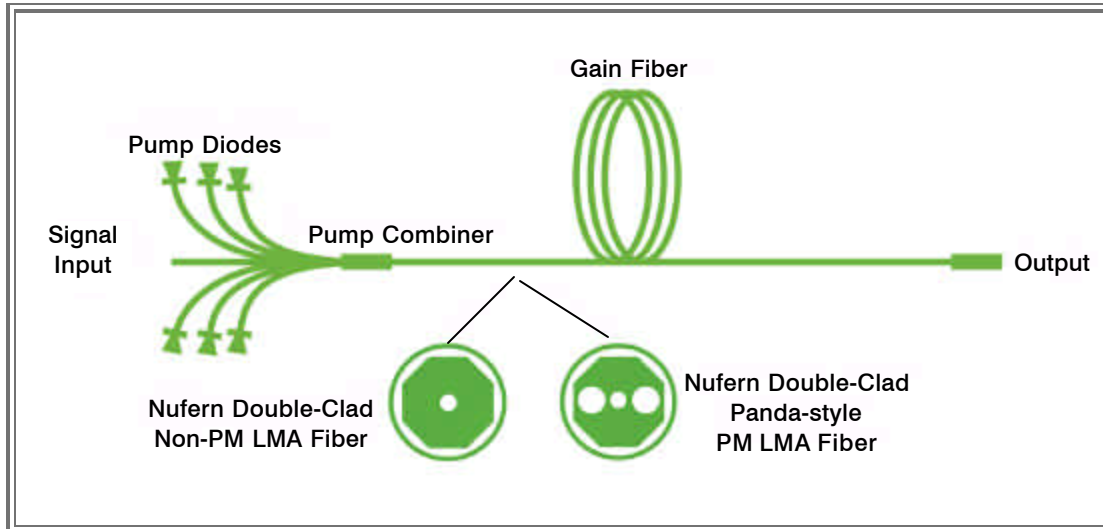


Fiber Amplifier Modules



Features

- TEM₀₀ Gaussian output (M^2 approx. 1.5)
- Greater than 13 dB gain
- High polarization extinction ratio, typically > 19 dB
- High peak power, pulsed (fs, ps, ns) amplification
- High and low average power (CW) amplification
- Narrow line width (kHz) amplification

Applications

- Sensing
- Range finding
- LIDAR
- Marking
- Micromachining
- Precision material processing
- Helium pumping
- Spectroscopy

Nufern's industry leading double-clad fibers are now available in a standard series of fiber laser amplifier modules. These robustly engineered amplifiers combine a carefully designed length of double-clad gain fiber with a complimentary tapered diode pump combiner. The signal input seeds the amplifier through a single-mode feedthrough which maintains the spectral (line width, wavelength, polarization, etc) and temporal integrity of the source through an ultra low loss splice onto the gain fiber. Efficient amplification occurs in the cladding pumped single-mode or large-mode area gain fiber.

Nufern amplifiers are available with a broad range of complimentary options including pre-packaged, pre-spliced diodes, end cap assemblies, pump dumps, connectors, OEM packaging and optimized configurations for non-standard wavelengths. Contact us for details.



Fiber Amplifier Modules

Amplifier ¹	Double-Clad Fiber	Multi-Input Pump Combiner	Application Notes
AMP-SM-YDF-5/130-XXX 1 μm - CW	SM-YDF-5/130 (see Nufern SM-YDF-5/130 data sheet for fiber details) Output fiber length approx. 0.5 m	6 multimode + 1 to 1 (105/125 μm, 0.22 NA pump input, 15 W max. per input ³ ; 6/125 μm, 0.14 NA single-mode signal input) Input fiber length approx. 0.5 m	Low average power/ low peak power. Ideal for single emitter pump sources
AMP-LMA-YDF-15/130-XXX 1 μm - Pulsed ²	LMA-YDF-15/130 (see Nufern LMA-YDF-15/130 data sheet for fiber details) Output fiber length approx. 0.5 m	6 multimode + 1 to 1 (105/125 μm, 0.22 NA pump input, 15 W max. per input ³ ; 6/125 μm, 0.14 NA single-mode signal input) Input fiber length approx. 0.5 m	Mid average power/high peak power. Ideal for single emitter pump sources
AMP-LMA-YDF-20/400-XXX 1 μm - CW or Pulsed ²	LMA-YDF-20/400 (see Nufern LMA-YDF-20/400 data sheet for fiber details) Output fiber length approx. 0.5 m	6 multimode + 1 to 1 (200/220 μm, 0.22 NA pump input, 15 W max. per input ³ ; 6/125 μm, 0.14 NA single-mode signal input) Input fiber length approx. 0.5 m	High average power /high peak power. Ideal for single emitter pump sources
AMP-SM-EYDF-7/130-XXX 1.55 μm - CW	SM-EYDF-7/130 (see Nufern SM-EYDF-7/130 data sheet for fiber details) Output fiber length approx. 0.5 m	6 multimode + 1 to 1 (105/125 μm, 0.22 NA pump input, 15 W max. per input ³ ; 6/125 μm, 0.14 NA single-mode signal input) Input fiber length approx. 0.5 m	Low average power/low peak power. Ideal for single emitter pump sources
AMP-PM-YDF-5/130-XXX 1 μm - low power Polarization Maintaining	PM-YDF-5/130 (see Nufern PM-YDF-5/130 data sheet for fiber details) Output fiber length approx. 0.5 m	6 multimode + 1 to 1 (105/125 μm, 0.22 NA pump input, 15 W max. per input ³ ; 6/125 μm, 0.14 NA single-mode polarized signal input) Input fiber length approx. 0.5 m	Low average power/ low peak power. polarization maintaining Ideal for single emitter pump sources
AMP-PLMA-YDF-15/130-XXX 1 μm - mid power Polarization Maintaining ²	PLMA-YDF-15/130 (see Nufern PLMA-YDF-15/130 data sheet for fiber details) Output fiber length approx. 0.5 m	6 multimode + 1 to 1 (105/125 μm, 0.22 NA pump input, 15 W max. per input ³ ; 6/125 μm, 0.14 NA single-mode polarized signal input) Input fiber length approx. 0.5 m	Mid average power/ high peak power. polarization maintaining Ideal for single emitter pump sources
AMP-PM-EYDF-7/130-XXX 1.55 μm - low power Polarization Maintaining	PM-EYDF-7/130 (see Nufern PM-EYDF-130 data sheet for fiber details) Output fiber length approx. 0.5 m	6 multimode + 1 to 1 (105/125 μm, 0.22 NA pump input, 15 W max. per input ³ ; 6/125 μm, 0.14 NA single-mode polarized signal input) Input fiber length approx. 0.5 m	Low average power/ low peak power. polarization maintaining Ideal for single emitter pump sources

Safety and Operating Considerations

The laser light emitted from this laser system is invisible and will be harmful to the human eye. Proper laser safety eyewear must be worn during operation.

21 CFR 1040.10 Compliance

These products are Class 4 lasers as designated by the Center for Device and Radiological Health (CDRH). They are specifically designed to be an OEM laser device for incorporation or integration into other equipment. As such, they DO NOT MEET the full requirements for a stand-alone laser system as defined by 21 CFR 1040.10 under the Radiation Control for health and Safety Act of 1968. It is the responsibility of the equipment manufacturer to meet all of the regulatory requirements for the full system.

Nufern follows a policy of continuous product improvement. Specifications are subject to change without notice.



- (1) XXX refers to the pump wavelength. Specify either 915 or 976 nm
- (2) Includes Nufern's proprietary coil form to ensure single-mode operation and thermal management
- (3) Consult with factory for maximum total input power recommendation for entire combiner