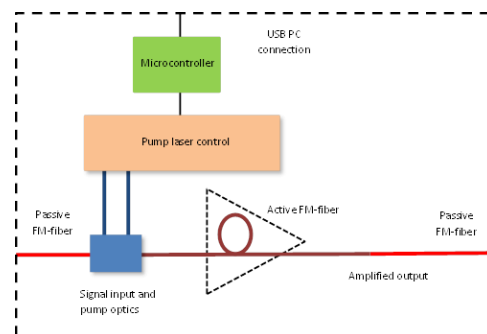


## Cladding pumped Few-Mode EDFA

This cladding pumped few mode fiber Erbium doped amplifier has been developed within the EU supported MODE-GAP project. The amplifier covers the C-band and is available in a 6-mode (LP<sub>01</sub>, LP<sub>11a</sub>, LP<sub>11b</sub>, LP<sub>21a</sub>, LP<sub>21b</sub>, LP<sub>02</sub>) configuration. Low noise figure and high gain are achievable across the full set of modes. The differential modal gain is low and flat across the full optical C-band. A side-pumping scheme was adapted to realize a fully-fiberized integrated SDM amplifier

Optical Parameters	Typical
Wavelength Range	1535 – 1565nm (C-band)
Input Power Range	-10 to 0 dBm per mode
Number of spatial modes	6
Small Signal Gain	> 20dB
Maximum Output Power	17dBm
Differential Modal Gain	< 4dB
Noise Figure	< 7dB
Input/ Output Connector	Bare fiber or FC/PC or FC/APC
<b>General</b>	
Control Electronics Dimensions	19" Rack Unit
Operating Voltage	110-230 VAC
Line Frequency	50 to 60 Hz



**Technical references:**

1. Y. Jung et al., "Cladding pumped few-mode EDFA for mode division multiplexed transmission," *Opt. Express* 22, 29008-29013 (2014).
2. Y. Jung et al., "Reconfigurable modal gain control of a few-mode EDFA supporting 6 spatial modes," *IEEE Photon. Tech. Lett.* 26, 1100-1103 (2014).
3. Y. Jung et al., "Three mode Er<sup>3+</sup> ring-doped fiber amplifier for mode-division multiplexed transmission," *Opt. Express* 21, 10383-10392 (2013).
4. Y. Jung et al., "First demonstration and detailed characterization of a multimode amplifier for space division multiplexed transmission systems." *Opt. Express* 19, B952-B957 (2011).

For more information please contact Phoenix sales:  
[sales@phoenixphotonics.com](mailto:sales@phoenixphotonics.com) or visit us at  
[www.phoenixphotonics.com](http://www.phoenixphotonics.com)