

# Cybel

*Lighting the Way*

[www.cybel-llc.com](http://www.cybel-llc.com)

## MantaRay

### 1060nm High Power Fiber Amplifier

### Key Features

- **Output power 1 to 10W**
- **Wide operating bandwidth 1050-1100nm**
- **Single mode, single frequency operation**
- **Wide dynamic range**
- **Standard or PM fiber**
- **High polarization extinction ratio**
- **Automatic power and current control (APC/ACC)**
- **High beam quality:  $M^2 < 1.1$**
- **Compact & rugged design**
- **RS232 or USB interface**

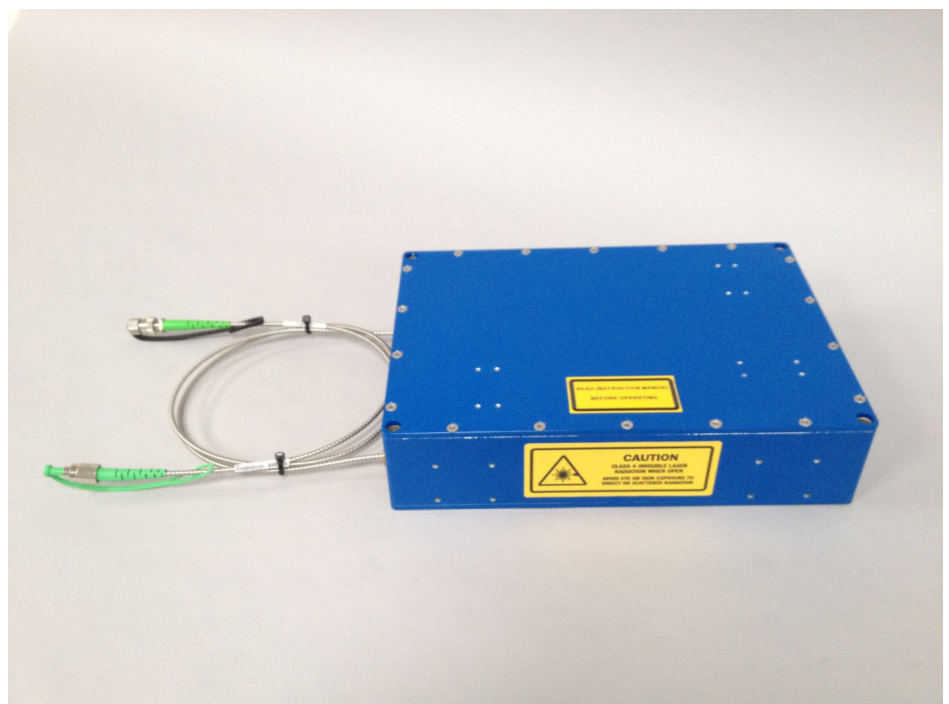
### Applications

- **Coherent or spectral beam combining**
- **Free space communications**
- **Spectroscopy**
- **Lidar and sensing**
- **Test and measurements**
- **Seed source for amp**

The CYBEL MantaRAY series is a line of 1micron high power, single mode, single frequency amplifiers that deliver up to 10W of saturated output power with a near diffraction limited output beam (i.e.  $M^2 < 1.1$ ).

The MantaRAY comes either in a standard or polarization maintaining fiber configuration, that provides the user with stable and high performance over a bandwidth from 1050nm to 1100nm. Output power and key monitoring and operating parameters such as automatic current control (ACC) and automatic power control (APC) modes are controlled from either a RS232 or USB port.

The MantaRAY amplifiers are efficient and compact all-fiber OEM units that can be used in a variety of applications, including industrial or laboratory uses, optical transmission systems or field deployment.



CYBEL, LLC 1195 Pennsylvania Avenue Bethlehem, PA18018 USA

Phone: (610) 691 7012

Sales: [contact@cybel-llc.com](mailto:contact@cybel-llc.com)

Website: [www.cybel-llc.com](http://www.cybel-llc.com)

# MantaRAY Specifications

CW-Single mode- Single Frequency- Standard or Linearly Polarized Fiber Amplifier				
OPTICAL	Unit	Min	Max	Comments
Optical Bandwidth	nm	1050	1100	
Input Signal Power	dBm	+7	+15	
Input Signal Linewidth	kHz	10		
Output Signal Power	W	1	10	Unit based
ASE Output Power	mW		200	@Pout=10W
Polarization Ext. Ratio	dB	>13		At rated Pout
Output Beam Quality M <sup>2</sup>			1.1	
Pout Tunability	%	10-100		Nominal
Output Power Variation	%		≤3	RMS
Output Isolation	dB	-30		Fiber isolator
Output Fiber Length		0.5m/Standard or Panda FC/APC		Armored cable
Monitor fiber length		1m/ Standard or Panda FC/APC		3mm
Input Fiber Length		1m/ Standard or Panda FC/APC		3mm
ELECTRICAL				
Voltage	V	18 to 30 volts		
Warm-up Time	min	20		
Power Consumption	W	<70	<150	@Pout max
Interface		USB and RS 232		
Mode of Operation		ACC or APC		
GENERAL				
Dimensions	mm	215 x 150 x 51		w/o heat sink
Storage Temperature	°C	-20 to 65		
Operating Case Temp.	°C	-10 to 50		
Humidity	%	5 to 95		Non condensing

## CUSTOMIZATION

The MantaRAY is an amplifier platform that can be customized upon request to operate in pulsed regime and other bandwidths.

**COMPLIANCE with Regulatory Requirements:** These OEM products are Class 4 lasers as designated by the Center for Device and Radiology Health (CDRH). As such they are intended only in integration into other equipment and do not comply with CDRH requirement. It is the customer responsibility for CDRH certification of the full system that incorporates this industrial laser



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