



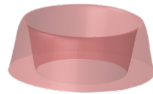
# YLS-AMB Series

## Adjustable Mode Beam Lasers

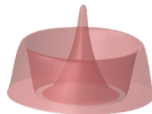
Independent & Dynamic Control of Beam Profile



**Central Beam:**  
50  $\mu\text{m}$  Core, up to 9 kW  
100  $\mu\text{m}$  Core, up to 12 kW



**Ring Beam:**  
Outer  $\varnothing$  300 or 600  $\mu\text{m}$



**Central + Ring Beam:**  
up to 25 kW



### Applications

- ▶ Multiple Applications by the Same Laser
- ▶ Applications Requiring On-the-fly Adjustment of Beam Brightness
- ▶ Applications Requiring Non-uniform Intensity Distribution
- ▶ Demanding High-quality Cutting Applications
- ▶ 2D/3D Thin & Thick Metal Cutting and Welding
- ▶ Variable Thickness Cutting
- ▶ Improved Pierce Quality
- ▶ Improved Welding and Brazing Quality
- ▶ Processing Any Metal: Mild and Stainless Steel, Titanium, Copper, Brass and Aluminum



### Features

- ▶ Rapid Automatic Switching Between Applications with Different Optimal BPP
- ▶ No Need for External Optics to Adjust BPP
- ▶ Total Output Power up to 25 kW
- ▶ Central Core Power up to 12 kW
- ▶ Easy Process Optimization and Automation
- ▶ Cost-effective Solution to Most Complex Tasks
- ▶ Wall Plug Efficiency Greater 45%
- ▶ Maintenance-free Operation
- ▶ Industry Leading Reliability

### NEW PRODUCT

The Broadest Range of Beam Profile Tunability



**IPG's YLS-AMB Adjustable Mode Beam Lasers** provide up to 25 kW total output power with automatic tuning of output beam mode parameter. The central core delivers up to 9 kW output power at 50  $\mu\text{m}$  core and up to 12 kW output power at 100  $\mu\text{m}$  core. The independent programmable adjustment of the output beam mode to any combination of a small-spot high intensity bright core to a larger ring-shaped beam allows processing a wider range of material thicknesses and improves piercing and cutting speed and quality, as well as optimizing welding performance without need for external free-space optics such as optical switches, zoom process heads and other peripherals previously required to support this level of flexibility. With industry record output power, the YLS-AMB Series fiber lasers enable optimal processing of both thick and thin materials by the same laser.

# YLS-AMB Series

## Adjustable Mode Beam Lasers

Optical Characteristics		YLS-6000/9000-AMB*
Wavelength, nm		1068-1080
Mode of Operation		CW/Modulated
Modulation Frequency, kHz		0-5
Total Average Power, kW		15
Central Core Output Power, kW		6
Ring Beam Output Power, kW		9
Power Tunability, %		10-100
Power Stability, %		±1
Central Fiber Core Diameter, μm		50 or 100
Outer Ring Fiber Diameter, μm		300 or 600
Central Beam Parameter Product, mm × mrad		2 or 3.5
Ring Beam Parameter Product, mm × mrad		<17, 22 Typ. @130 × 300 μm Ring <30, 35 Typ. @130 × 600 μm Ring

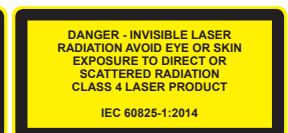
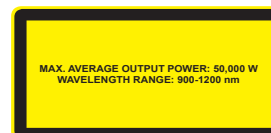
\* The specifications are given for the specific 15 kW model with maximum 6 kW power in the core and 9 kW in the ring. The maximum total average power for YLS-AMB Series lasers is up to 25 kW, the maximum central core power is up to 9 kW at 50 μm core and up to 12 kW at 100 μm core. Different output power levels, custom core/ring output power combinations and core and ring fiber diameters are available upon request. The length of the delivery fiber may be limited by combination of the central core output power and diameter. Please contact IPG representative with your requirements.

General Characteristics	
Cabinet Dimensions (W × D × H), mm	Up to 5 kW: 780 × 804 × 556 6-10 kW: 1005 × 804 × 556 12-25 kW: 1005 × 804 × 806
Weight, kg	Up to 440
Supply Voltage, VAC	400-480 3-phase, 50/60 Hz
Wall-plug Efficiency, %	>45

1 (508) 373-1100; sales.us@ipgphotonics.com  
+49 2736 44200; sales.europe@ipgphotonics.com (European Inquiries)

[www.ipgphotonics.com](http://www.ipgphotonics.com)

**Legal notices:** All product information is believed to be accurate and is subject to change without notice. Information contained herein shall legally bind IPG only if it is specifically incorporated into the terms and conditions of a sales agreement. Some specific combinations of options may not be available. The user assumes all risks and liability whatsoever in connection with use of a product or its application. IPG, IPG Photonics, The Power to Transform and IPG Photonics' logo are trademarks of IPG Photonics Corporation. © 2015-19 IPG Photonics Corporation. All rights reserved.



**The Power to Transform®**