

# YLS-SM-AMB

## Single-Mode Adjustable Mode Beam Lasers

Designed for  
High-Speed Precision  
Welding Applications



### FEATURES

- ▶ Single-mode Core up to 2 kW
- ▶ Ring Beam up to 5 kW
- ▶ Automatic Switching Between Different Optimal BPPs
- ▶ Easy Process Optimization and Automation



### APPLICATIONS

- ▶ Battery Manufacturing
- ▶ High Precision Single-mode Keyhole Welding
- ▶ High Speed Welding with No Spatter, Cracking and Porosity



**YLS-SM-AMB** lasers with single-mode central core are specifically designed for high speed welding in electrical vehicle battery manufacturing. YLS-SM-AMB adjustable mode beam lasers provide the highest possible brightness in the core beam.

Adjustable Mode Beam lasers improve productivity in cutting, welding and additive manufacturing by independent programmable adjustment of the beam mode to any combination of a small-spot high intensity bright core or a larger ring-shaped beam. In welding, AMB lasers eliminate spatter, cracking and porosity at the highest welding speeds unattainable by other methods.

YLS-SM-AMB lasers deliver the highest total power with the widest range of beam mode parameters on the market.

# YLS-SM-AMB

## Single-Mode Adjustable Mode Beam Lasers

Optical Characteristics	YLS-1000/2000-SM-AMB	YLS-2000/4000-SM-AMB
Central Wavelength Range, nm	1068-1080	
Mode of Operation	CW/Modulated	
Modulation Frequency, kHz	0-5	
Total Average Power, kW	3	6
Central Core Output Power, kW	1, 1.5, 2	
Ring Beam Output Power, kW	2, 1.5, 1	5, 4.5, 4
Power Tunability, %	10-100	
Power Stability, %	±1	
Central Fiber Core	Single-mode	
Outer Ring Fiber Diameter, μm	40×100	
Feeding Fiber Length, m	up to 10	

General Characteristics		
Cabinet Dimensions (W × D × H), mm	430 × 804 × 556	430 × 804 × 700
Weight, kg	<140	<200
Supply Voltage, VAC	400-480 3-phase, 50/60 Hz	
Wall-plug Efficiency, %	40 Typ.	



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[IPGPhotonics.com/contact](http://IPGPhotonics.com/contact)  
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MAX. AVERAGE OUTPUT POWER: 12 kW  
MAX. PEAK OUTPUT POWER 12 kW  
WAVELENGTH RANGE: 900-1200 nm

DANGER - INVISIBLE LASER  
RADIATION AVOID EYE OR SKIN  
EXPOSURE TO DIRECT OR  
SCATTERED RADIATION  
CLASS 4 LASER PRODUCT

IEC 60825-1:2014

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