

YLS-QCW-AMB SERIES

Quasi-CW Adjustable Mode Beam Lasers

Dual-Beam Lasers with High Peak Power
For High-Speed, Spatter-Free Welding



NEW



FEATURES

- ▶ Output Peak Power up to 12 kW
- ▶ Average Power up to 1.2 kW
- ▶ Pulse Duration: 0.05 - 50 ms
- ▶ High Speed Welding with No Spatter, Cracking or Porosity
- ▶ Automatic BPP Control
- ▶ Low Heat Input
- ▶ Air-cooling Removes Need for Water or External Chiller
- ▶ Easy to Integrate
- ▶ Low Cost Compared to CW Lasers



APPLICATIONS

- ▶ Welding Copper and Aluminum
- ▶ Welding Electrical Components
- ▶ Electric Vehicle Manufacturing

The **NEW YLS-QCW-AMB** lasers provide the combined benefits of adjustable mode beams (AMB) lasers with a quasi-continuous wave (QCW) mode of operation. These lasers are air-cooled, eliminating need for water-cooling lines and stand-alone chiller.

AMB flexibility allows for independent programmable adjustment of the beam profile to any combination of a small-spot high intensity bright core and a larger ring-shaped beam. AMB laser processing eliminates spatter, cracking and porosity at high welding speeds.

The QCW mode of operation provides 10X high peak power in millisecond pulses at the reduced average power, enabling lower cost processing using minimum average power at the peak power required by the application as compared with traditional CW lasers.

Dual-beam technology and high peak power facilitates welding highly reflective materials such as copper and aluminum. Low average power input during processing reduces the heat affected zone, part warping and distortions when welding delicate parts such as electrical connectors, electronic components and battery busbars.

YLS-QCW-AMB SERIES

Quasi-CW Adjustable Mode Beam Lasers

Optical Characteristics	600/6000-QCW-AMB-AC	900/9000-QCW-AMB-AC	1200/12000-QCW-AMB-AC
Wavelength, nm	1070 ±2		
Mode of Operation	CW or Pulsed		
Maximum Repetition Rate, kHz	2		
Total Average Power, W	600	900	1200
Maximum Peak Power*, kW	6	9	12
Core Beam Average Power, W	150/300/450	300/450/600	400/600/800
Ring Beam Average Power, W	450/300/150	600/450/300	800/600/400
Maximum Pulse Energy, J	60	90	120
Pulse Duration, ms	0.5 - 50		
Power Stability, %	±2		
Central Fiber Core**, μm	50/100		
Outer Ring Fiber Diameter**, μm	150 or 200 (50 μm CORE) / 300 or 400 (100 μm CORE)		

* Higher power levels can be offered on request.

** Other combinations of core and ring sizes can be produced upon request.

Please contact your Sales Representative for custom configurations.

General Characteristics

	Cooling*	Forced Air	
Weight, kg	160	250	270
Supply Voltage, 50-60 Hz, VAC	1-phase 200 - 250		
Power Consumption, kW	2.3	3.2	4.3

* Water-cooled models can be offered on request.



+1 (508) 373-1100;
IPGPhotonics.com/contact
www.ipgphotonics.com

MAX. AVERAGE OUTPUT POWER: 2.4 kW
 MAX. PEAK OUTPUT POWER: 24 kW
 PULSE DURATION: 0.05-50 ms
 PULSE REPETITION RATE: 0-2000 Hz
 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