YLM-QCW & YLR-QCW

Single-mode QCW Fiber Lasers

Ideal Replacement for Lamp Pumped YAG Lasers

Single-mode Beam Quality

Single-mode quasi-continuous wave (QCW) fiber lasers are ideal for applications requiring high peak power and small focal spots in a pulsed operation mode, including microcutting of highly reflective metals (copper, brass, aluminum) and non-metals (sapphire, ceramics, silicon) and a variety of microwelding and microcutting applications. IPG QCW lasers provide a 10X increase in peak power compared to their average CW power in a long pulse operation mode.

Single-mode QCW lasers are offered as both end user friendly rack units and OEM modules for system integrators. These compact air-cooled lasers are substantially more cost-effective than lamp-pumped YAG lasers and offer >30% energy efficiency and virtually maintenance-free operation. QCW fiber lasers are available for requalification of existing lamp-pumped processes in IPG application labs.

FEATURES

- CW Power 300 W, Peak Power 3 kW
- Excellent Beam Quality
- Outstanding Pulse Power/Energy Stability
- Air-cooled Rack Units or OEM Modules
- Pulse Shaping/Internal Pulse Generator
- Highly Efficient >30% Energy Efficiency

APPLICATIONS

- Microcutting of Highly Reflective Metals
- Spot Welding and Seam Welding
- Microkeyhole and Conduction Welding
- Cutting of Sapphire, Ceramics and Silicon
- Microdrilling of Metals and Non-metals
- Batteries, Medical Devices, Electronic Components

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Single-mode QCW Fiber Lasers

Optical Characteristics	150/1500 W	300/3000 W
Wavelength, nm	1070 ±5	
Mode of Operation	Pulsed/CW	
Modulation Frequency, kHz	0-50	
Max. Average Power CW mode, W	250	300
Max. Average Power QCW mode, W	150	300
Maximum Peak Power, W	1500	3000
Maximum Pulse Energy, J	15	30
Pulse Duration, ms	0.05-50	
Power Tunability, %	10-100	
Power Stability, %	±0.5	
Beam Quality, M^2	<1.1 (1.05 typ.)	<1.3 (1.15 typ.)

General Characteristics		
Console Dimensions (W × D × H),mm	Module: 256 × 435 × 148 Rack Unit: 448 × 504 × 177	Module: 416 × 566 × 148 Rack Unit: 448 × 665 × 266
Weight, kg	Module: <25 Rack Unit: <30	Module: <35 Rack Unit: <50
Cooling	Air	
Supply Voltage	Module: 48 VDC Rack Unit: 100-240 VAC, 50-60 Hz, single-phase	Module: 48 VDC Rack Unit: 200-240 VAC, 50-60 Hz, single-phase
Wall-plug Efficiency, %	>30	

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