

Exceptional design - advancing technical frontiers

→→ **RAPIDUS™** 532nm OEM-LASER

The world's smallest multi-watt green high performance cw laser

Innovative opto-mechanical approach ensure outstanding features

- Sealed, fully air-cooled, maintenance-free laser head
- Single pump-diode architecture delivering up to 5.5 W laser power
- No cavity realignments or adjustments ever
- Easiest integration into any application due to its leading compactness
- TEM₀₀ mode, near diffraction limited
- The typical diode lifetime accesses 12.000 hours of continuous operation
- Minimized cost of ownership
- Maximum versatility and portability while battery-powered up to multiple hours
- Additional stationary industrial version available



Miniaturizing ensured by worldwide patented technologies

RAPIDUS™ - Laser.
Innovative. Powerful. Reliable.



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→ RAPIDUS™ LASER

The revolutionary nano-design makes it remarkably simple to integrate these robust laser systems into all existing production lines and units, as well as those expected in the future. Integration limitations in industrial applications will almost disappear, due to the maximum compactness of the total system - weighing less than 3 kg. In addition to allowing the optimum of flexibility, the advanced thermal technology prevent bulky heat sink layouts.

With pump-diode rates in excess of typically 12,000 hours and a practically maintenance-free pure air-cooling design, including those for cost-effectiveness.

By virtue of their unique concept, all RAPIDUS™ versions will be available as wearable, battery-powered handheld devices. The rechargeable battery package in a size of a human fist, generates incessant operated up to 1 hour a 5W (cw) green (532 nm) laser beam. Optional available high-capacity battery packages allow several hours of autarchic production process-time. The laser is offered in two OEM-versions – industrial and scientific – both providing trouble-free laser performance.

Technical Data

Rapidus™ 532nm Laser

Optical Specifications

Output Wavelength	532nm	1064nm
Maximum Output Power ¹	4.5W - 5.5W	8.0W - 10.0W
Output Power Adjust	0 - max.	
M ² ⁴	<1,1 (1.03) typical	
Beam Dimension ²	1mm / 2mm	
Divergence ²	1mrad / 0,5mrad	
Polarization	Linear, > 100:1	
Power Stability ^{1,3}	2σ < 1,0% (0,5%) typical	
Mode	TEM ₀₀ (Monomode)	

Electrical Requirements

Input Voltage	24VDC 5A
Powerconsumption	75W (typical)
Delivery implies a power supply of 85VAC - 240VAC 50Hz - 60Hz	
Battery pack optional	

Enviromental Requirements

Operating Temperature	10°C to 30°C
Operating Humidity	0% - 95%, non-condensing

Weight / Dimensions

Laser Head	0,95 kg	160x62x42mm (L/W/H)
Controller	1,60 kg	∅160x39mm (DxH)

We reserve the right to make technical modifications without prior notice. Errors and omissions excepted.

¹measured with COHERENT Labmaster Ultima

²depending on the used beam expander

³over 2 hours at constant room temperature

⁴measured with COHERENT ModeMaster PC M2 Beam Propagation Analyzer and also measured with MetroLux M² Beam Propagation Analyzer

Typical applications

- Pump source for Ti:Sapphire and dye lasers;
- Spectroscopy and imaging;
- Material processing;
- Metrology;
- Non-destructive testing
- Forensic
- Film subtitling
- Disk texturing
- Semiconductor wafer inspection
- Photoluminescence
- Leisure market applications
- Laser ablation and OPO pumping

