

CorALIGHT CW OEM Fiber Laser Modules

INTRODUCTION

Manufacturers of laser systems are facing increased pressure to reduce prices and come up with innovative and cost-effective technologies. As such, fiber lasers have shown great promises over the last few years and are increasingly capturing market shares from solid-state and CO₂ lasers. But the market for high-power CW fiber lasers is captive with very few competitive suppliers.

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CorActive’s OEM fiber laser modules meet the needs of laser system manufacturers looking for a truly cost-effective and customizable fiber laser solution. CorALIGHT CW OEM laser modules allow our customers to leverage CorActive know-how and expertise in specialty fiber and fiber laser design.



CorALIGHT CLM Series — Air Cooled Version

PRODUCT OVERVIEW

CorALIGHT CLM Series of OEM fiber laser modules are specifically designed for industrial materials processing applications. CLM modules are made from CorActive truly photodarkening-free optical fiber and present key features such as proprietary heat management, ruggedized optical engine, innovative and cost-effective fiber laser architecture.

CorActive CLM modules are built to meet the highest standards of reliability and performance. The CLM Series modules include a sealed optical engine with built-in control and monitoring electronics ready for integration into our customer’s equipment. We can provide a range of beam delivery, control and interface options, and flexibility in output power so that the laser can be optimized for the customer application.

CLM modules have been designed to deliver from 100 up to 500W of continuous wave (CW) power in a wavelength range near 1080nm. The CorALIGHT modules feature very high efficiency and high beam quality with a measured M² at the output head typically lower than 1.1. This high beam quality make them ideal for numerous materials processing applications.

KEY SOLUTION BENEFITS

CorActive has been involved in the design and manufacturing of specialty optical fibers for fiber laser applications for almost 10 years. Over the last few years, CorActive has developed a key expertise in the design of pulsed and CW fiber lasers for OEM customers.

CorActive OEM fiber laser modules present several key benefits to customers looking for a truly customizable and cost-effective fiber laser solution:

Reduced Technological & Financial Risks and Faster Time-to-market

Developing a complete in-house fiber laser solution is a risky and costly proposition for a system integrator with limited engineering resources and lack of fiber laser expertise. New product development projects have a well known tendency to go over budget and end up in long lead times.

By offering a fully integrated optical module with basic fiber laser functionalities, CorActive allows its customers to concentrate on what they do best and not worry about integrating complex optical fiber laser components.

Substantial Cost Reductions

High-power fiber lasers are offered by only a handful of suppliers. Current turnkey fiber laser solutions on the market may not be cost-effective due to the technologies used or may not offer the level of integration that systems manufacturers are seeking.

CorALIGHT OEM fiber laser modules are based on a low-cost fiber laser architecture and offer different levels of integration to meet the needs of various customer requirements at the fraction of the cost of a complete and full-featured turnkey fiber laser.

Truly Independent Supplier

CorActive is one of the last truly independent fiber laser module supplier. CorActive has complete manufacturing or procurement control over the entire fiber laser components used in its products. CorActive business model is to provide OEM fiber laser solutions at the module level only and does not intend to become a complete fiber laser manufacturer.

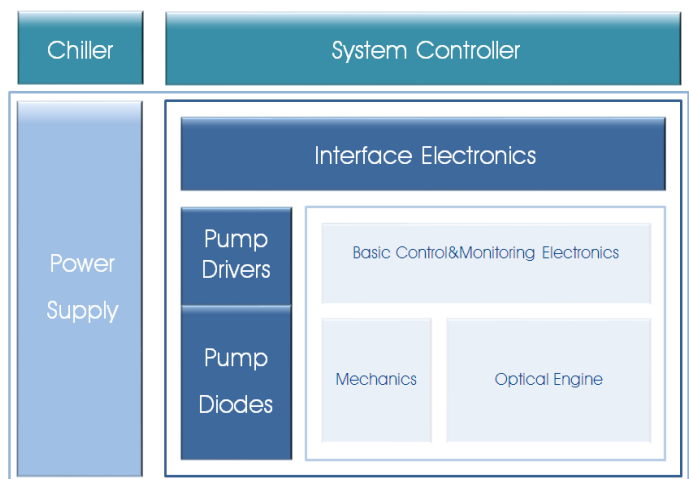
PRODUCT DESCRIPTION





At the core of CorActive fiber laser solution is a rugged and fully integrated optical module. From the very beginning, CorActive closely works with the customer to specify the optimal level of integration required to meet specific time-to-market and cost reduction objectives.

The drawing below best illustrates how CorActive OEM modules fit into our customer's systems.

CorALIGHT core optical module solution includes all basic fiber laser functionalities:

- Sealed optical engine with all optical components
- Basic control & monitoring electronics
- Mechanical parts (enclosure, cooling mech., etc.)



-  CorActive core solution
-  CorActive augmented solution
-  CorActive laser solution
-  Provided by system integrator

Depending on customer requirements and resources, CorActive can offer additional fiber laser functionalities. CorActive augmented solution as illustrated above may also include pump diodes with drivers and interface electronics for easier integration with the customer system controller. This solution may represent an interesting option to customers who wish to benefit from CorActive strategic partnership with key pump diode manufacturers.

PRODUCT ADVANTAGES

Customizable

- Different levels of integration
- Optimized to meet specific application requirements
- Tailored to customer's needs

Reliable

- Truly photodarkening-free gain fiber for stable long-term operation
- Optical engine fully tested and optimized
- Simple and rugged design

Cost-Effective

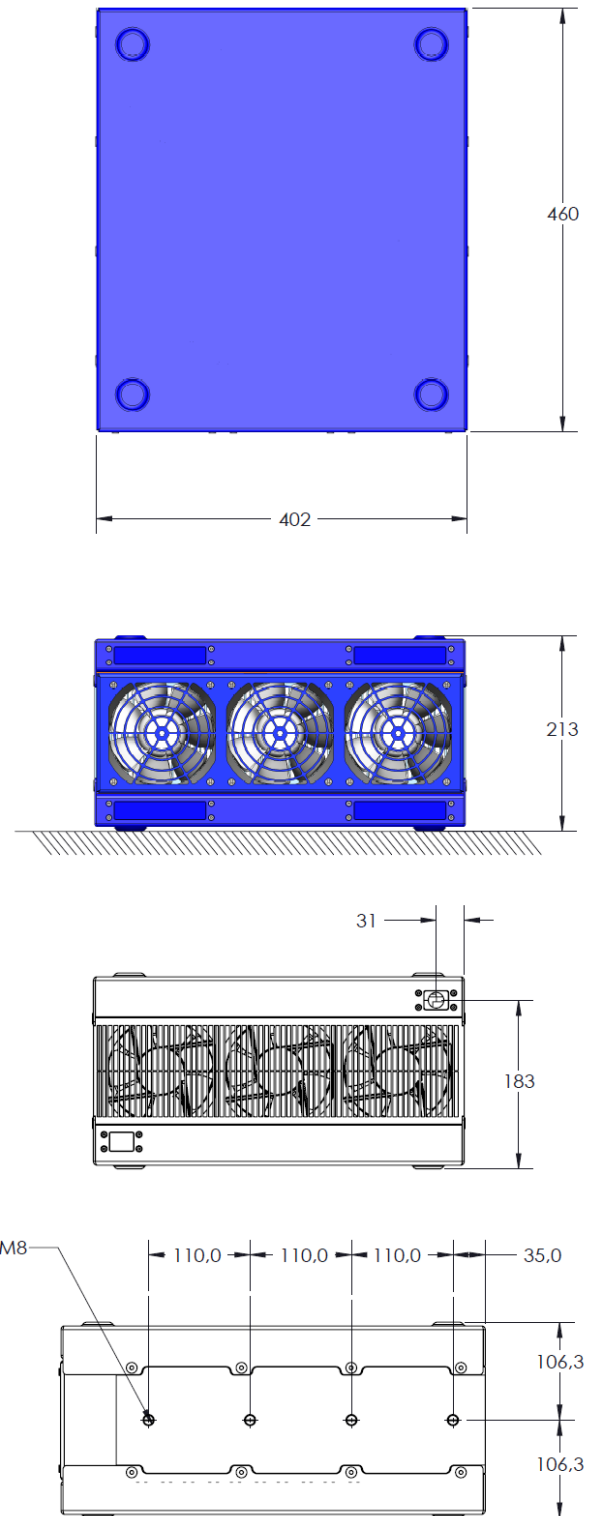
- Low bill-of-materials
- In-house manufacturing of most laser components
- Manual labor limited to its minimum

APPLICATIONS

- Materials Processing
- Micro-machining
- Fine Cutting
- Precision Welding
- Medical



DIMENSIONS



Note: Air cooled version illustrated

SPECIFICATIONS

Optical	Units	CLM-100	CLM-200	CLM-500*
Mode of Operation			CW	
Polarization			Random	
Lasing Wavelength	nm		1080±5	
Pump Wavelength	nm		965±5	
Nominal Output Power	W	100	200	500
Output Power Loss	%	< 1 (over 1000 hours)		
Laser Slope Efficiency @ 965nm	%	> 60		

Output Beam Characteristics

		QCS Type	RQB Type
Optical Head			
Beam Quality (M ²)		< 1.1	
Beam Diameter	mm	< 5.5	N/A
Beam Parameter Product	mm*mrad	< 5.5	
Cable Length	m	> 5	

Mechanical

		Air or Water	Water
Cooling			
Approx. Enclosure Dimensions	mm	405x405x205	405x405x130
Weight	kg	37	15

Electrical

		DB-25 Connector		
Input/Output Interface				
Power Supply (No pumps)	VDC	24VDC/1A	24VDC/1A	24VDC/0.1A

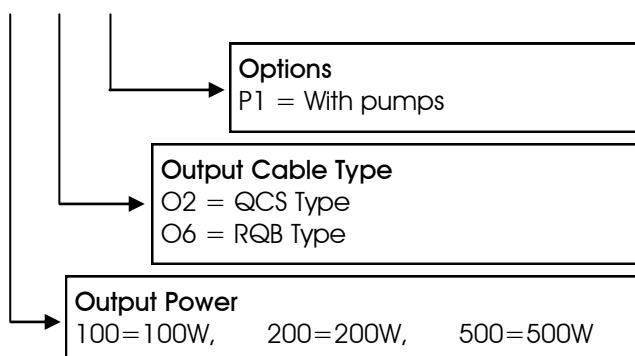
Environmental

Operating Temperature	°C	0 - 40
Operating Humidity	%	10-80 RH (non condensing)

*Coming soon!

CONFIGURATIONS

CLM - □ - □ - □



CorActive's CorALIGHT CW OEM fiber laser modules are specifically designed for industrial materials processing applications.

CorALIGHT modules feature a sealed optical engine with built-in control and monitoring electronics ready for integration into our customer's equipment.

CorActive
Specialty Optical Fiber Manufacturer

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