



LU09xxC050-4 Fiber coupled Diode Laser Up to 50W Operation Power



Description:

The Lumics LU09xxC050-4 series offers an optical output power of up to 50W in c.w. operation from a 200µm or 400µm fiber. The device consists of multiple hermetically sealed single emitter laser modules in a rugged industrial package. For applications requiring higher powers, multiple bundles can be combined to achieve the desired configuration for your system. Long lifetime is ensured due to extensive screening of the individual single emitter laser modules. The performance makes it a valuable tool for the highly efficient pumping of high power fiber amplifiers and solid state lasers for material processing with exceptional power densities.

Features & Functions:

- Powered Air-cooled
- Safety Features
- Temperature Control
- Output Power Monitor
- Integrated Driver Option
- All-in-Fiber
- Single Emitters
- SMA Connector
- Red Pilot Option

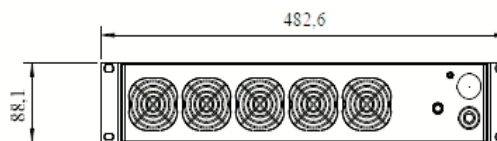
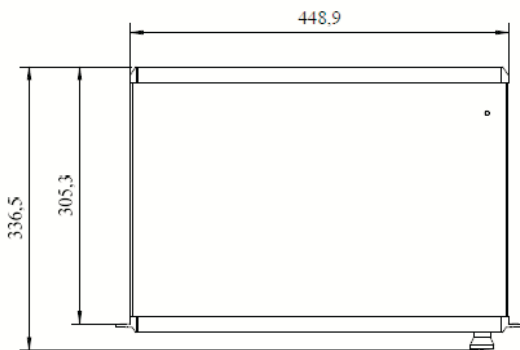
Benefits:

- Compact
- Scalable
- Cost-effective
- High Reliability

Applications:

- Solid State Laser Pumping
- Material Processing
- Medical Laser Treatment
- Illumination
- Marking

Module Drawing (dimensions in mm)



15-pole Control:

Pin	Function	Pin	Function
2	Fiber Connector 0V (option)	7 / 8	Temp. Sensor for Diode Laser
3	Fiber Connector Sensor +24V output (option)	9	Photo Diode Anode (+)
5	Pilot Laser Anode (+) (option)	11	Photo Diode Cathode (-)
6	Pilot Laser Cathode (-) (option)		

2-pole LD-Drive:

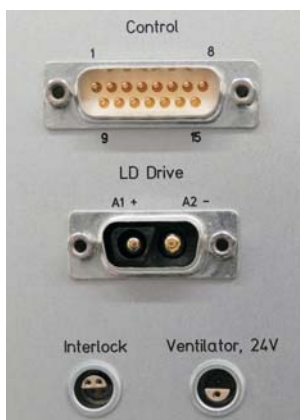
Pin	Function
A1	LD Anode (+)
A2	LD Cathode (-)

Interlock:

Pin
1 / 4

Ventilator / 24V DC Supply:

Pin	Function
1	+24V DC
2	0V



Your ideas are welcome.

Electrical and Optical Characteristics (Laser specifications at 25°C):

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
C.W. Output Power		Pop		50		W
Operating Current		I _{op}		11.0	12.0	A
Peak Wavelength	LU0915C050-4	λ	905	915	925	nm
	LU0940C050-4	λ	930	940	950	nm
	LU0975C050-4	λ	965	975	985	nm
Spectral Width (FWHM)		Δλ		5	7	nm
Threshold Current		I _{th}		600	700	mA
Operating Voltage		V _f		10.8		V
Wavelength vs. Temperature		Δλ / T		0.35		nm/K
Wavelength vs. Operating Current		Δλ / I		2		nm/A
Monitor Diode				0.5 - 20		μA/W
Temperature Sensor		NTC		10		kOhm
Output Fiber Options						
<i>Standard - Bundle of 7 fibers</i>						
Length of Fiber Bundle				2		m
Fiber Cable Bend Radius			200			mm
Core Diameter of Fiber Bundle 7 x 105 / 125 μm				400		μm
Numerical Aperture		NA		0.15		
<i>SMA Connector on Fiber end</i>						
<i>Option - SMA Connector on Case</i>						
Fiber Core Diameter				200 or 400		μm
Numerical Aperture		NA		0.22		
Fiber Connector Sensor Signal Voltage				12 / 0		V
Other Options						
<i>1) Red Pilot Beam</i>						
C.W. Output Power		at 5V		1.0	1.5	mW
Peak Wavelength		as specified	625	650	660	nm
Spectral Width (FWHM)				1	2	nm
Operating Voltage				5		V
<i>2) Power Supply (integrated)</i>						
Power		DC		250		W
Output Voltage		DC		18		V
Output Current		DC		14		A
Input Voltage		AC		100 - 230		VAC
Programming analog		DC		0 - 5		V
Programming via RS 232						

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature	T _{max}	-20	60	°C
Operating Case Temp.	T _{op, case}	10	40	°C
LD Forward Current	I _{op, max}		12.5	A
LD Reverse Voltage	V _{R, max}		2	V
Maximum Power Red Pilot Beam	P _{max, red LD}		1.5	mW

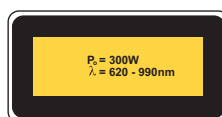
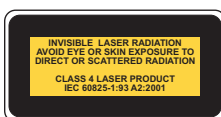


Option 2:
Diode Laser with integrated driver

Important Note:

Read and carefully follow operating manual instructions. Especially - whenever power supply is switched on or off, always disconnect from laser module. See manual for details. Uncontrolled on / off switching may cause spikes and result in fatal device damage.

User Safety



Your ideas are welcome.