



LU09xxC150-B Fiber coupled Diode Laser Up to 150W out of 200µm NA 0.22 Fiber



Description:

The Lumics LU09xxC150-B series offers an optical output power of up to 150W in c.w. operation from a 200µm core, NA 0.22 output 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:

- Wavelength 915, 940 or 975nm
- Hermetically sealed and tested single emitters
- 200µm core, NA 0.22 fiber
- D80 connector

- Back reflection protection
- Temperature sensor
- Fiber detectors
- Power monitor
- Red Pilot

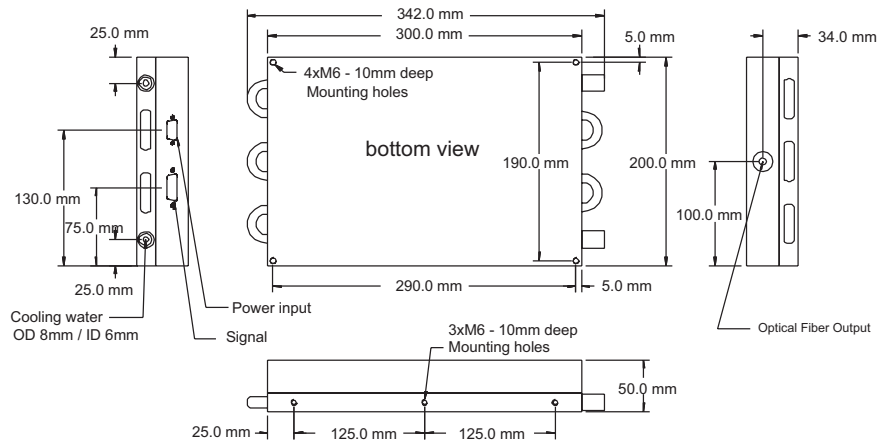
Benefits:

- Compact design
- Very high Lifetime
- Cost-effective
- All-in-Fiber

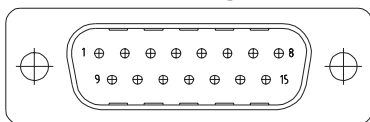
Applications:

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

Module Drawing (dimensions in mm)



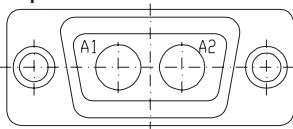
D-Sub 15-pole Signal Connector



Pin	Function	Pin	Function
5	Pilot Laser +*	10	Photo Diode 2 +*
6	Pilot Laser -*	11	Photo Diode Gnd
7 / 8	Temp. Sensor 1 for Diode Laser*	12 / 13	Temp. Sensor 1 for Fiber Connector*
9	Photo Diode 1 +	14 / 15	Temp. Sensor 2 for Diode Laser*

* = Option

2-pole Pin Connector



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

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		150		W
Operating Current		I _{op}		10	10.5	A
Peak Wavelength	LU0915C150-B	λ	905	915	925	nm
	LU0940C150-B	λ	930	940	950	nm
	LU0975C150-B	λ	965	975	985	nm
Spectral Width (FWHM)		Δλ		5	7	nm
Threshold Current		I _{th}		500	700	mA
Operating Voltage		V _f		42		V
Wavelength Tuning vs. Temperature		Δλ / T		0.35		nm/K
Wavelength Tuning vs. Operating Current		Δλ / I		1		nm/A
Monitor Diode				0.2 - 20		μA/W
Temperature Sensor		NTC		10		kOhm
Recommended Operating Temperature		Top	15		35	°C
Water Cooling Base						
Water Temperature		T	15		35	°C
Water Flux			2			l/min
Water Quality			industrial Water, no DI-water, filtered particle size <0.1mm			
Output Fiber						
<i>D80 Connector on Case</i>						
Fiber Core Diameter				200		μm
Numerical Aperture		NA		0.22		
Min fiber bend radius			200			mm
Options						
<i>Option 1 - Red Pilot Beam (1)</i>						
C.W. Output Power		at 5V		1.0		mW
Peak Wavelength		as specified	625	650	660	nm
Spectral Width (FWHM)				1	2	nm
Operating Voltage				5		V

1) In case of the red pilot beam option the operating power is reduced from 150W to 125W

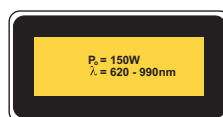
Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temp. (without water)	T _{max}	-20	60	°C
Operating Case Temp.	Top, case	10	40	°C
LD Forward Current	I _{op, max}		11	A
LD Reverse Voltage	V _{R, max}		2	V
Maximum Power Red Pilot Beam	P _{max, red LD}		2	mW

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.