



LU09xx0C045-8 Laser Diode Pump Source Up to 45W from 105µm fiber, 915, 940 or 980nm



Description:

The LU09xxC045-8 series offers an optical output power of up to 45W in c.w. operation from a 105µm core diameter, NA 0.22 fiber. The device consists of hermetically sealed single emitter modules in a rugged industrial package. Long lifetime is ensured due to laser diode facet passivation, extensive burn-in testing and screening of the individual single emitters. The performance makes it a valuable tool for various applications.

Features & Functions:

- 105µm, NA 0.22 Fiber
- Wavelength 915, 940 or 980nm
- Hermetically sealed and tested single emitters
- Temperature Sensor
- Power monitor

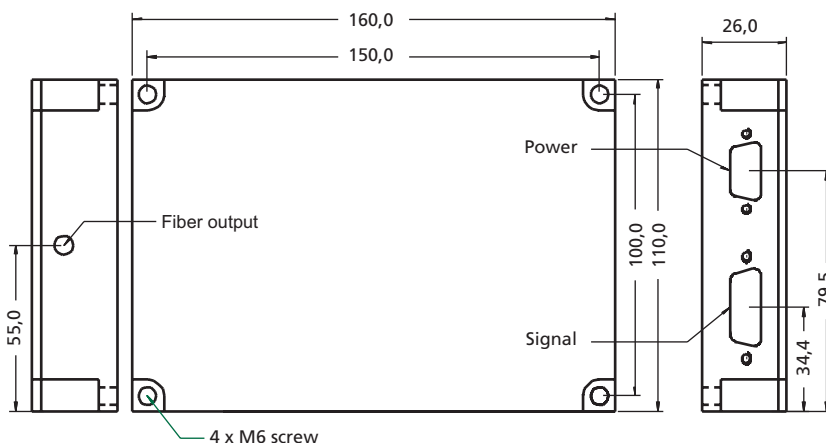
Benefits:

- Custom Interfaces
- Ultra long Lifetime
- Cost effective
- High Efficiency

Applications:

- Pumping
- Printing
- Material processing
- Medical treatment

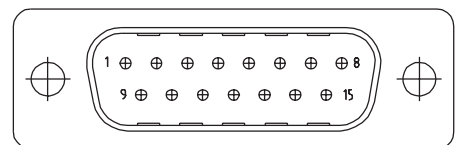
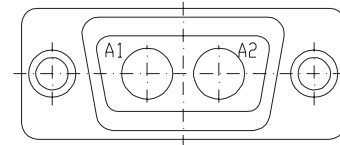
Module Drawing (Dimensions in mm)



Pin Connections

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

2-pole Power Connector



D-Sub 15-pole Signal Connector

Pin	Function	Pin	Function
1	N.C.	2	N.C.
3	N.C.	4	N.C.
5	N.C.	6	N.C.
7 / 8	Temp. Sensor 1 for Diode Laser	9	Photo Diode 1 +
10	N.C.	11	Photo Diode Gnd
12 / 13 N.C.		14/15	Temp. Sensor 2 for Diode Laser*

* = Option

Your ideas are welcome.

Electrical and Optical Characteristics

Laser specifications at 25°C

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
C.W. Output Power		P_{op}		45		W
Operating Current		I_{op}		10	11	A
Peak Wavelength	LU0915C045-8	λ	905	915	925	nm
	LU0940C045-8	λ	930	940	950	nm
	LU0980C045-8	λ	970	980	990	nm
Spectral Width (FWHM)		$\Delta\lambda$		4	8	nm
Threshold Current		I_{th}		600		mA
Operating Voltage		V_f		11.2		V
Wavelength Tuning vs. Temperature		λ / T		0.35		nm / K
Wavelength Tuning vs. Operating Current		λ / I		1		nm / A
Power monitor diode				0.3-20		$\mu A / W$
Temperature sensor		NTC		10		kOhm

Output Fiber Options:

105 μm output fiber, NA 0.22

Length of output fiber			1		m
Bend radius		50			mm
Core Diameter of Output Fiber			105		μm
Numerical Aperture	NA		0.22		

Option:

Option 1 - Water Cooling Plate

Water Temperature	T	+10	+40	°C
Water Quality		Industrial Water, no DI-water, filtered particle size <0.1mm		

Absolute Maximum Ratings

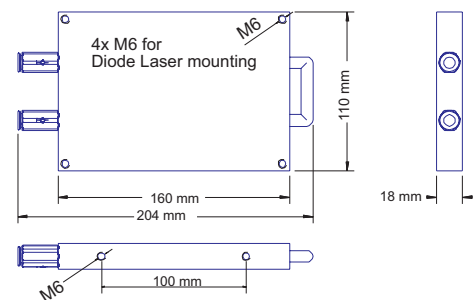
Parameter	Symbol	Min	Max	Unit
Storage Temperature	T_{max}	-20	+60	°C
Operating Case Temp.	$T_{op, case}$	+10	+40	°C
LD Forward Current	I_{op}		11.0	A
LD Reverse Voltage	$V_{R, max}$		2	V

Important Note:

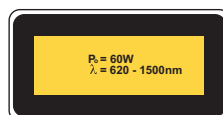
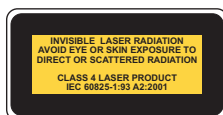
Read and carefully follow operating manual instructions. Especially - whenever power supply is switched on or off, always disconnect from laser module. See manual for details. Uncontrolled on / off switching may cause spikes and result in fatal device damage.

To Option 1:

Dimensions of water cooling plate (mm)
Water flow rate should be >1.5l/min.



User Safety



Your ideas are welcome.