



## LU09xxC120-C Laser Diode Pump Source Up to 120W Operation Power @ 9xx nm



### Description:

The LU09xxC120-C series offers an optical output power of 120W at 915, 940, 960 or 975nm in c.w. operation from a 200µm core diameter fiber. The device consists of hermetically sealed single emitter modules in a rugged industrial package. Long lifetime is ensured due to extensive burn-in testing and screening of the individual single emitter. The performance makes it a valuable tool for various applications.

### Features & Funktionen:

- Wavelength 915, 940, 960 and 975nm
- 200µm fiber, NA 0.22
- D80 Connector
- Passive cooling
- Hermetically sealed and tested single emitters
- Power monitor
- Temperature sensor
- Fiber sensor option

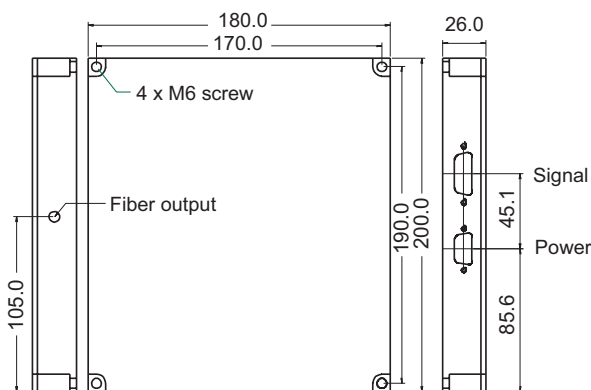
### Benefits:

- Custom interface
- Ultra long Lifetime
- Cost effective
- High Efficiency
- Feedback protection

### Applications:

- Pumping
- Material Processing
- Medical Laser treatment
- Illumination
- Marking

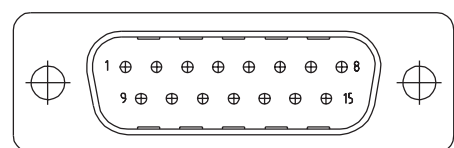
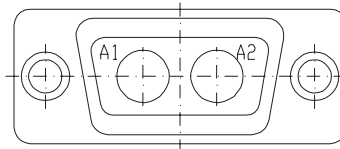
### Module Drawing (Dimensions in mm)



### 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	Fiber Connector V+*	2	Fiber Connector Gnd*
3	Fiber Connector Sensor 1 Output*	4	Fiber Connector Sensor 2 Output*
5	Pilot Laser (+)*	6	Pilot Laser (-)*
7 / 8	Temp. Sensor 1 for Diode Laser	9	Photo Diode 1 (+)
10	Photo Diode 2 (+)	11	Photo Diode Gnd
12 / 13	Temp. Sensor for Fiber Connector*	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		$P_{op}$		120		W
Operating Current		$I_{op}$		10		A
Peak Wavelength	LU0915C120-C	$\lambda$	905	915	925	nm
	LU0940C120-C	$\lambda$	930	940	950	nm
	LU0960C120-C	$\lambda$	950	960	970	nm
	LU0975C120-C	$\lambda$	965	975	985	nm
Spectral Width (FWHM)		$\Delta\lambda$		6	10	nm
Threshold Current		$I_{th}$		600		mA
Operating Voltage		$V_f$		35		V
Wavelength Tuning vs. Temperature		$\lambda / T$		0.35		nm / K
Wavelength Tuning vs. Operating Current		$\lambda / I$		1		nm / A
Temperature Sensor		NTC		10		kOhm
Operating Temperature			20	25	30	°C
Power monitor diode				0.5 - 20		$\mu A / W$

### Output Fiber

Standard - Optical Fiber Connector D80 on Module

Including Fiber Connector Sensor

Core Diameter of Output Fiber				200		$\mu m$
Numerical Aperture		NA		0.22		
Fiber Connector Sensor Operating Voltage				12		V
Fiber Connector Sensor Signal Voltage				12/0		V

### Option 1 - Red Pilot Beam

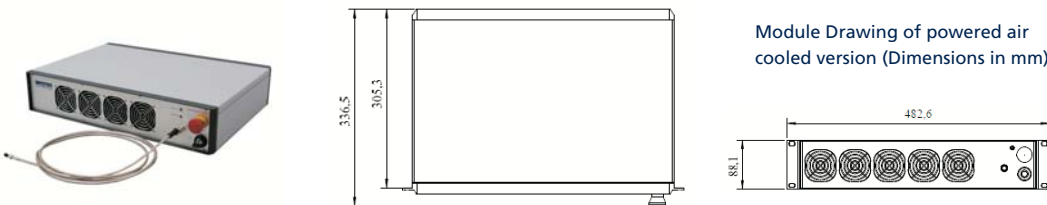
C.W. Output Power (1)	at 5V			1.0	3	mW
Peak Wavelength	as specified	625		635	660	nm
Spectral Width (FWHM)				1	2	nm
Operating Voltage				5		V

### Option 2 - Water Cooling Plate

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

### Option 3 - Powered Air Cooling Version (LU09xxC120-4)

Dimensions (see Drawing)	19inch rack mount	2 height units				
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### Option 4 - Power Supply and LD Driver on request

Remark:

(1) Do not exceed 3 mW Optical Output Power for the Red Pilot Beam.

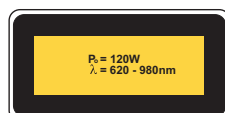
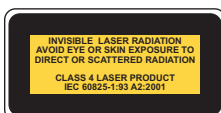
## Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature	$T_{max}$	0	+60	°C
Operating Case Temp.	$T_{op, case}$	10	+40	°C
LD Forward Current	$I_{op}$		10	A
LD Reverse Voltage	$V_{R, max}$		2	V

### Important Note:

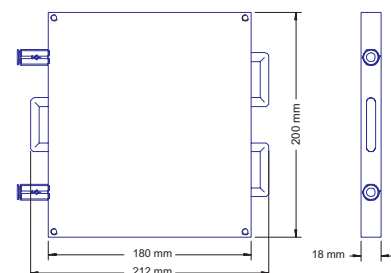
Read and carefully follow operating manual instructions. Especially - whenever power supply is switched on or off, always disconnect from laser module. See manual for details. Uncontrolled on / off switching may cause spikes and result in fatal device damage.

## User Safety



### To Option 2:

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



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