



## LU08080C030-8 Laser Diode Pump Source Up to 30W Operating Power @ 808nm



### Description:

The LU0808C030-8 series offers an optical output power of up to 30W in c.w. operation from a 400µm, core diameter, NA 0.22 fiber. The LU0808C020-8 version offers 20W out of a 200µm core diameter fiber with NA 0.22. 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:

- Wavelength 808nm
- Hermetically sealed and tested single emitters
- 200 or 400µm, NA 0.22 Fiber
- SMA905 Connector
- Temperature Sensor
- Fiber detectors
- Power monitor
- Red pilot laser

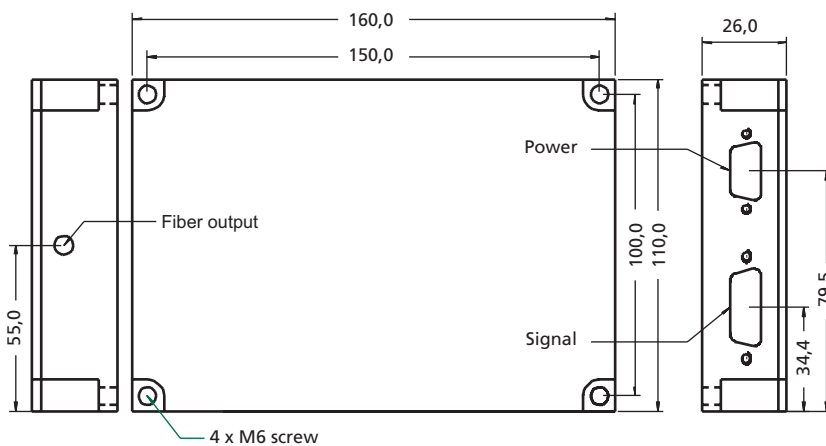
### Benefits:

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

### Applications:

- Pumping
- Illumination
- Material processing
- Medical treatment
- Soldering

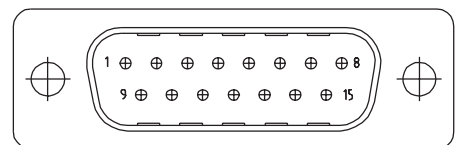
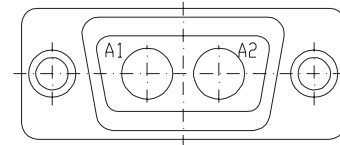
### Module Drawing (Dimensions in mm)



### 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	LU0808C030-8	$P_{op}$		30		W
	LU0808C020-8 (1)	$P_{op}$		20		W
Operating Current		$I_{op}$		4.8	5.2	A
Peak Wavelength		$\lambda$	800	808	816	nm
Spectral Width (FWHM)		$\Delta\lambda$		4	8	nm
Threshold Current		$I_{th}$		800	1100	mA
Operating Voltage		$V_f$		16.5	18	V
Wavelength Tuning vs. Temperature		$\lambda / T$		0.35		nm / K
Wavelength Tuning vs. Operating Current		$\lambda / I$		1		nm / A
Power monitor diode				0.3-20		$\mu A / W$
Temperature sensor (2)		NTC		10		kOhm

### Output Fiber Options:

Standard: fiber cable

Length of output fiber bundle				2		m
Bend radius			200			mm
Core diameter	LU0808C030-8			400		$\mu m$
	LU0808C020-8 (1)			200		$\mu m$
Numerical Aperture		NA		0.22		

### Option 1: Optical Fiber Connector SMA905 on Module

Including Fiber Connector Sensor

Core Diameter	LU0808C030-8			400		$\mu m$
	LU0808C020-8 (1)			200		$\mu m$
Numerical Aperture		NA		0.22		
Fiber Connector Sensor Operating Voltage				12		V
Fiber Connector Sensor Signal Voltage				12/0		V

### Other Options:

#### Option 2 - Red Pilot Beam

C.W. Output Power		at 5V		1.0	1.5	mW
Peak Wavelength		as specified	625	635	660	nm
Spectral Width (FWHM)				1	2	nm
Operating Voltage				5		V

#### Option 3- Water Cooling Plate

Water Temperature	T	+10		+40		°C
Water Quality		Industrial Water, no DI-water, filtered particle size <0.1mm				
Water flow rate			1.5			l/min

Remark:

- (1) The maximum output power is limited to 20W for the options with 200 $\mu m$  core diameter output fiber
- (2) Other temperature sensors like PT100 or LM35 are offered on request.

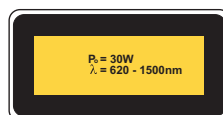
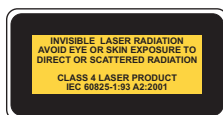
## Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature	$T_{max}$	-20	+60	°C
Operating Case Temp.	$T_{op, case}$	+10	+40	°C
LD Forward Current	$I_{op}$		5.5	A
LD Reverse Voltage	$V_{R, max}$		2	V

### Important Note:

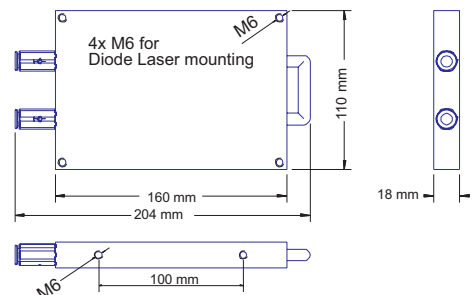
Read and carefully follow operating manual instructions. Especially - whenever power supply is switched on or off, always disconnect from laser module. See manual for details. Uncontrolled on / off switching may cause spikes and result in fatal device damage.

## User Safety



### To Option 3:

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



Your ideas are welcome.