



LU10640C040-8 Laser Diode Pump Source Up to 40W Operating Power @ 1064nm



Description:

The LU1064C040-8 series offers an optical output power of up to 40W in c.w. operation from a 200µm, or a 400µm 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:

- Wavelength 1064nm
- Hermetically sealed and tested single emitters
- 200 or 400µm, NA 0.22 Fiber
- SMA905 Connector
- Temperature Sensor
- Fiber detectors
- Power monitor
- Red pilot laser

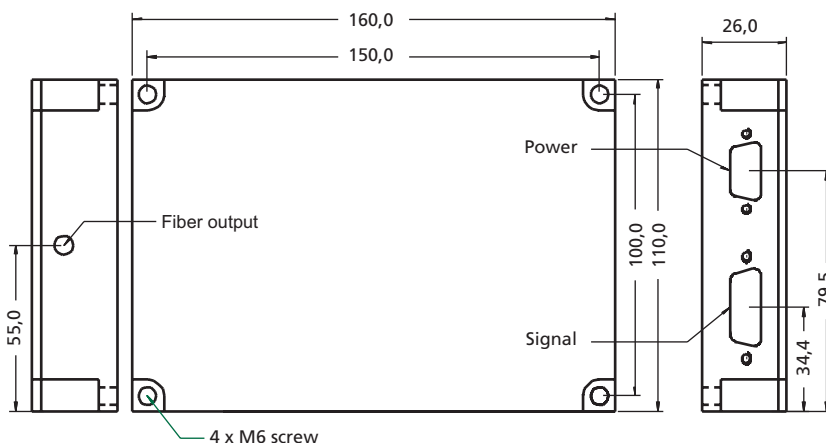
Benefits:

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

Applications:

- Plastic welding
- Illumination
- Material processing
- Medical treatment
- Soldering

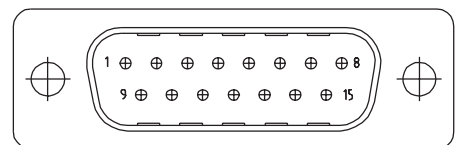
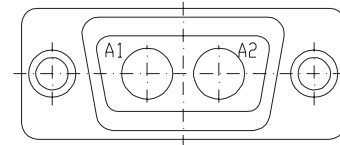
Module Drawing (Dimensions in mm)



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		P_{op}		40		W
Operating Current		I_{op}		8.9	9.5	A
Peak Wavelength	LU1064C040-8	λ	1054	1064	1074	nm
Spectral Width (FWHM)		$\Delta\lambda$		4	8	nm
Threshold Current		I_{th}		700	900	mA
Operating Voltage		V_f		13.5	16	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:

Standard: fiber bundle

Length of output fiber bundle				1.5		m
Bend radius			200			mm
Core diameter of 7 fold bundle (7 x 105/125 μm)				400		μm
Numerical Aperture (please specify)		NA		0.15 or 0.22		

Option 1: 200 μm output fiber

Length of output fiber				1.5		m
Bend radius			200			mm
Core Diameter of Output Fiber				200		μm
Numerical Aperture		NA		0.22		

Option 2: Optical Fiber Connector SMA905 on Module

Including Fiber Connector Sensor

Core Diameter of output fiber (please specify)				200 or 400		μm
Numerical Aperture				0.22		
Fiber Connector Sensor Operating Voltage				12		V
Fiber Connector Sensor Signal Voltage				12/0		V

Other Options:

Option 3 - Red Pilot Beam (1)

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 4 - 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 35W for this option with red pilot laser

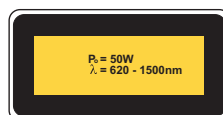
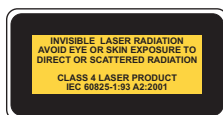
Absolute Maximum Ratings

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}		10	A
LD Reverse Voltage	$V_{R, max}$		2	V

Important Note:

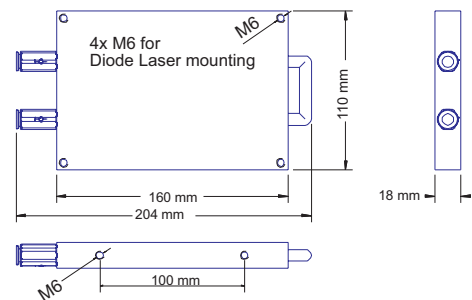
Read and carefully follow operating manual instructions. Especially - whenever power supply is switched on or off, always disconnect from laser module. See manual for details. Uncontrolled on / off switching may cause spikes and result in fatal device damage.

User Safety



To Option 4:

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



Your ideas are welcome.