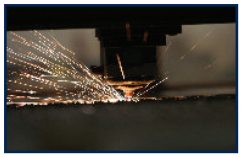
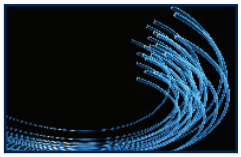
Lumics

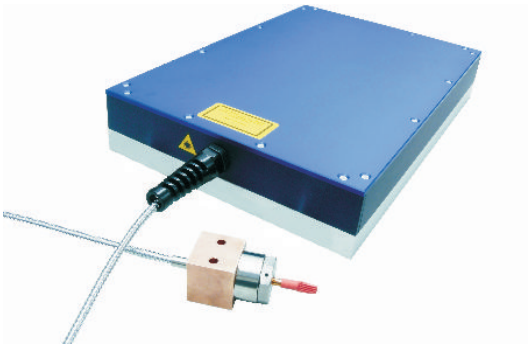


LU1064C120-A

Fiber coupled Diode Laser

Up to 120W operation power



Description:

The Lumics LU1064C120-A series offers an optical output power of up to 120W at 1064nm in c.w. operation from a 19 fold fiber bundle. 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 material processing and other applications.

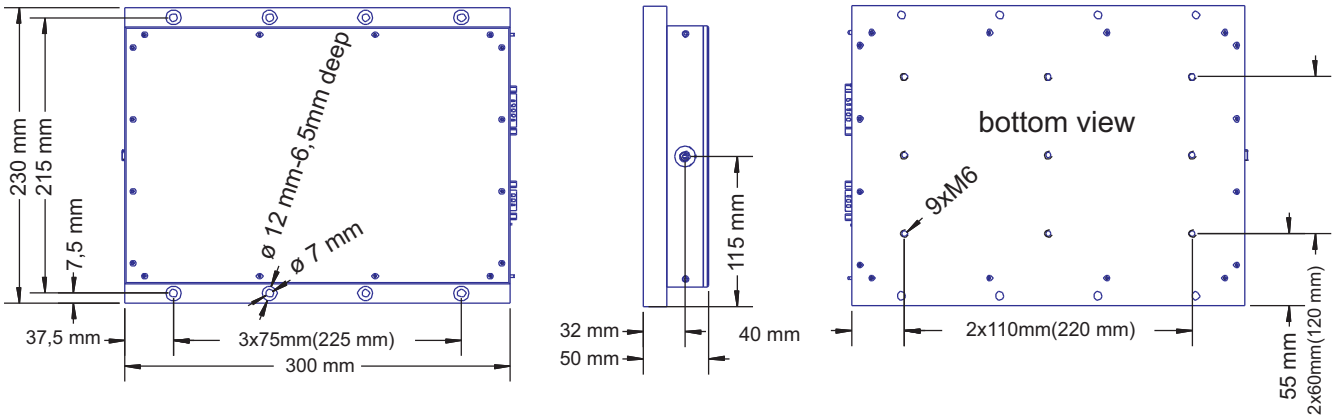
Features:
- Fiber Sensor
- Red Pilot
- Monitor Diode
- 1064nm

Functions:
- Fiber Bundle
- 1:1 Coupler
- Double Sealed Housing

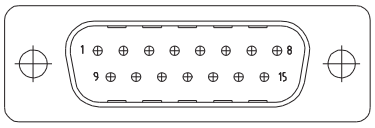
Benefits:
- Cost-effective
- Robust
- Scalable
- "All-in-Fiber"

Applications:
- Material Processing
- Medical Laser Treatment
- Illumination
- Marking

Module Drawing (dimensions in mm)



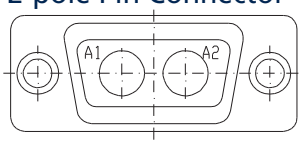
D-Sub 15-pole Signal Connector



Pin	Function	Pin	Function
1	Fiber Connector V+*	7 / 8	Temp. Sensor 1 for Diode Laser*
2	Fiber Connector Gnd*	9	Photo Diode 1 +
3	Fiber Connector Sensor 1 output*	10	Photo Diode 2 +*
4	Fiber Connector Sensor 2 output*	11	Photo Diode Gnd
5	Pilot Laser +*	12 / 13	Temp. Sensor 1 for Fiber Connector*
6	Pilot Laser -*	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		P_{op}		120		W
Operating Current		I_{op}		8.9	9.5	A
Peak Wavelength	LU1064C120-A	λ	1054	1064	1074	nm
Spectral Width (FWHM)		$\Delta\lambda$		4	7	nm
Threshold Current		I_{th}		700	900	mA
Operating Voltage		Vf		38		V
Wavelength Tuning vs. Temperature		Δ / T		0.35		nm/K
Wavelength Tuning vs. Operating Current		D / I		2		nm/A
Monitor Diode				0.5 - 20		µA/W
Temperature Sensor		NTC		10		kOhm
Output Fiber Options						
Standard - Bundle of 19 fibers						
Length of Fiber Bundle			2			m
Fiber Cable Bend Radius			200			mm
Core Diameter of Fiber Bundle 19 x 105 / 125 µm				600		µm
Numerical Aperture		NA		0.15	0.19	
D80 Connector on Fiber end						
Option - D80 Connector on Case						
Fiber Core Diameter				400 or 600		µm
Numerical Aperture		NA		0.22		
Fiber Connector Sensor Operating Voltage				12		V
Fiber Connector Sensor Signal Voltage				12 / 0		V
Option - Pump Combiner						
Length of Fiber Bundle			2			m
Fiber Cable Bend Radius			200			mm
Fiber Core Diameter				400		µm
Numerical Aperture		NA		0.22		
Other Option						
Red Pilot Beam						
C.W. Output Power (1)		at 5V		1.0	1.5	mW
Peak Wavelength		as specified	625	650	660	nm
Spectral Width (FWHM)				1	2	nm
Operating Voltage				5		V

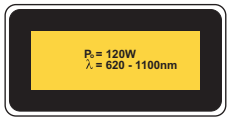
Remark:
(1) Do not exceed 1.5 mW Optical Output Power for the Red Pilot Beam.

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.

Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temp.	T_{max}	-20	60	°C
Operating Case Temp.	$T_{op, case}$	10	40	°C
LD Forward Current	$I_{op, max}$		10	A
LD Reverse Voltage	$V_{R, max}$		2	V
Maximum Power Red Pilot Beam	$P_{max, red\ LD}$		1.5	mW

User Safety



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