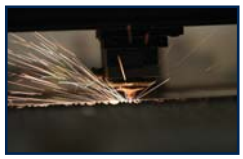
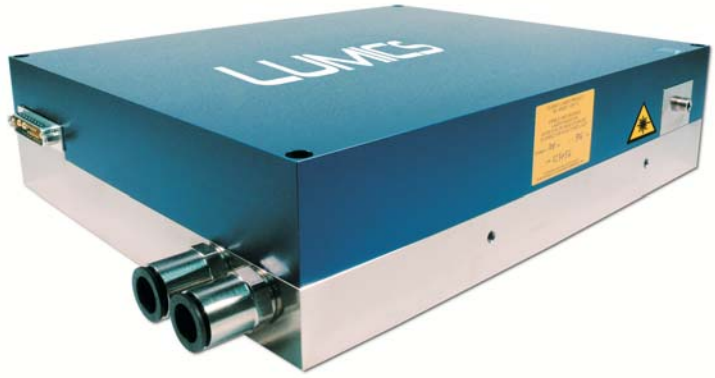





LuOcean M2

LUxxxxA800-J Diode Laser
Up to 800W c.w. Operating Power



Description:

The LUxxxxA800-J LuOcean M2 series offers an optical output power of more than 800W with different wavelength. The device consists of multiple single emitter laser diodes 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:

- Mixed Wavelength option
- Burn-in tested single emitters
- D80 connector
- Sealed housing
- Power monitor
- Temperature sensor
- Fiber sensor option
- Red pilot laser option
- Water cooling included
- Back reflection filter option

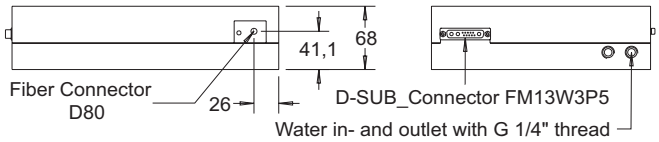
Benefits:

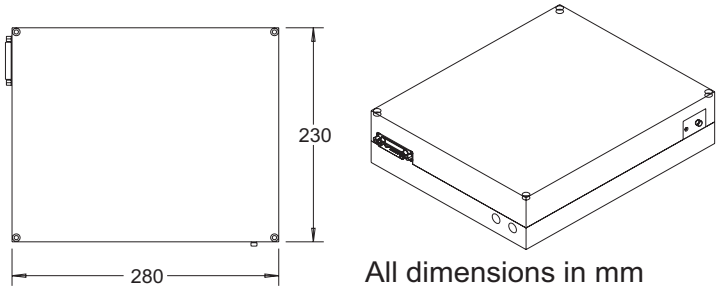
- Small foot print
- Ultra long lifetime
- Cost effective
- High efficiency

Applications:

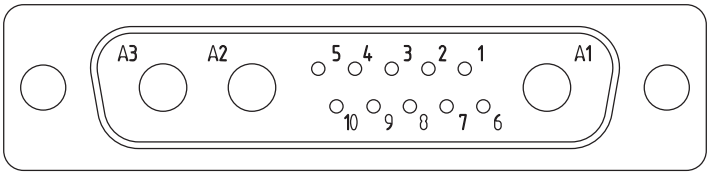
- Pumping
- Illumination
- Medical treatment
- Materials processing

Module Drawing (Dimensions in mm)





Connector



Pin Connections

1	Fiber Sensor Signal 1 *
2	N. C.
3	Fiber Sensor / Monitor Diode (Vs) 12V
4	Fiber Sensor (GND) LM35 (GND) Monitor Diode (GND)
5	LM35 Signal or NTC or PT100/1000
6	Monitor Diode Signal 2*
7	Montor Diode Signal 1
8	Pilot Laser (GND)
9	LM35 5V or NTC or PT100/1000
10	Pilot Laser (3-5V)
A1	980nm Laser Diode (+)
A2	Laser Diode GND (-)
A3	N. C.
* =	optional

Your ideas are welcome.

Electrical and Optical Characteristics

Parameter	Conditions	Symbol	LU09xxA400	LU09xxA700	LU09xxA800	Unit
LUxxxxA700-J						
Output Power (1)	c.w.	P_{op}	400	700	800	W
Operating current	c.w.	I_{op}	27	27	27	A
Absolut maximum forward current	c.w.	I_{max}	29	29	29	A
Peak Wavelength (2)	LU0915Ayyy		915+/-10	915+/-10	915/+/-10	nm
	LU0975Ayyy		975+/-10	975+/-10	975+/-10	nm
Spectral width (FWHM)		$\Delta\lambda$	6	6	6	nm
Spectral width (90%)		$\Delta\lambda_{90\%}$	9	9	9	nm
Threshold current		I_{th}	<2	<2	<2	A
Operating voltage		V_f	35	70	78	V
Conversion efficiency			42	38	38	%
Wavelength tuning vs. temperature		λ / T	0.3	0.3	0.3	nm/K
Wavelength tuning vs. operating current		λ / I	0.4	0.4	0.4	nm/A
Weight		m	6000	6000	6000	g
Output fiber (SMA905 or D80 connector on module)						
Core diameter of output fiber		d_{core}	400/600	400/600	400/600	µm
Fiber centricity			10	10	10	µm
Numerical aperture		NA	0.22	0.22	0.22	
Power monitor		PD	10-30	10-30	10-30	mV/W
Temperature sensor	LM35, NTC (10k) or PT100/1000 (please specify)					
Max internal operating temperaure			25	25	25	°C
Options:						
Option 1: Red pilot laser						
C.w. output power			1-3	1-3	1-3	mW
Peak wavelength			650+/-15	650+/-15	650 +/-15	nm
Operating voltage			3-5	3-5	3-5	V
Water temperature		T	<18°	<18°	<18°	°C
Minimum water flux (industrial water, no DI-water)			3	4.5	6	l/min
Option 2: 1064nm backreflection filter (35dB on request) (3)			18	18	18	dB
Option 3: Fiber sensor signal			12	12	12	V
Fiber sensor type PNP IFRM03P1503/Q (normally open) or with open collector output						

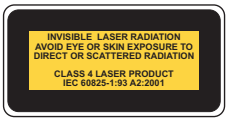
Remarks:
(1) Power is measured ex fiber according to given fiber specifications including precision and measures of fiber and ferrules for uncoated fiber facets
(2) narrower wavelength (+/- 4nm) on request
(3) Back reflection is considered as 10ns pulse with 5% d.c. max. Back reflection filter which provides higher max. back reflection energy of 2mJ is offered on request. Back reflection reduces power by 1.5% (18db), 3% (35db)
(4) Max. pulse time <200µsec, duty cycle <20%

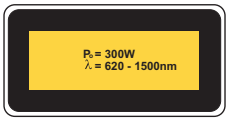
Important Note
Read and carefully follow operating manual instructions. Especially, whenever power supply is switched on or off, always disconnect from laser module. See manual for details. Uncontrolled on / off switching may cause spikes and result in fatal device damage.

Absolute Maximum Ratings / General Informations

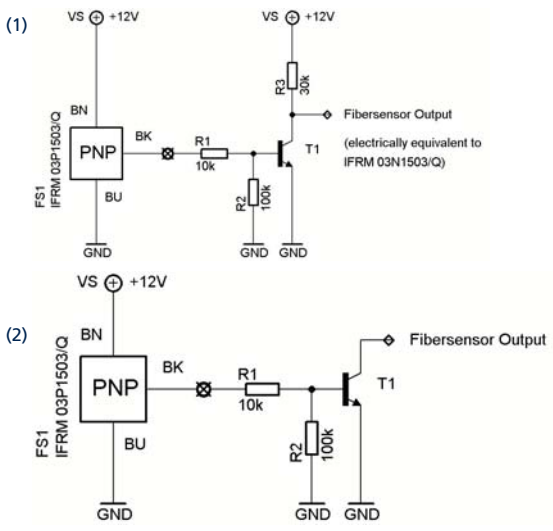
Parameter	Symbol	Min	Max	Unit
Storage temperature	T_{max}	-15	+55	°C
Operating temp. c.w.-operation	$T_{op\ c.w.}$	+5	+30	°C
pulsed operation (4)	$T_{op\ pulse}$	+5	+40	°C
Humidity / non condensing atmosphere			90	%
LD reverse voltage	$V_{R,\ max}$		10	V
Max fiber flange temperature			45	°C
Mounting screws / metric			8 x M4	
Max. back reflection of intrinsic pump wavelength output power			10	%
Max. back reflection, any other than λ of this diode laser (10ns pulse)			20	µJ

User Safety





To Option 3 fiber sensor:



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