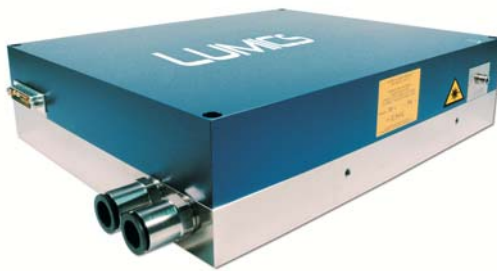




## LuOcean M2

**LUxxxxAyyy-J Diode Laser**  
**Up to 160W c.w. Operating Power at 1470nm**



### Description:

The LUxxxxAyyy-**LuOcean M2** series offers an optical output power of up to 160W at 1470nm and 1530nm 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:

- 1470/1530nm option
- Burn-in tested single emitters
- D80 connector
- Sealed housing
- Power monitor
- Temperature sensor
- Fiber sensor option
- Red pilot laser option
- Water cooling included

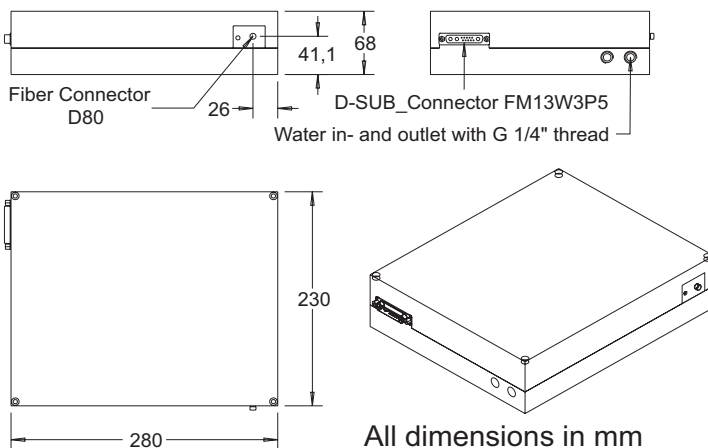
### Benefits:

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

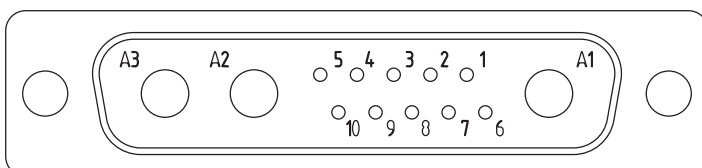
### Applications:

- 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	Monitor 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 Typical laser specifications at 25°C

Parameter	Conditions	Symbol	LUxxxxA100	LUxxxxA160	Unit
LUxxxxAyyy-J					
Output Power (1)	c.w.	$P_{op}$	100	160	W
Operating current	c.w.	$I_{op}$	13	13	A
Absolut maximum forward current c.w.		$I_{max}$	14	14	A
Peak Wavelength	LU1470Ayyy		1470+/-15	1470+/-15	nm
	LU1530Ayyy		1530+/-15	1530+/-15	nm
Spectral width (FWHM)		$\Delta\lambda$	10	10	nm
Spectral width (90%)		$\Delta\lambda_{90\%}$	15	15	nm
Threshold current		$I_{th}$	1.1	1.1	A
Operating voltage		$V_f$	34	68	V
Conversion efficiency			20	20	%
Wavelength tuning vs. temperature		$\lambda / T$	0.7	0.7	nm/K
Wavelength tuning vs. operating current		$\lambda / I$	2	2	nm/A
Weight		$m$	6800	6800	g
Output fiber (SMA905 or D80 connector on module)					
Core diameter of output fiber		$d_{core}$	400/600	400/600	$\mu m$
Fiber centricity			10	10	$\mu m$
Numerical aperture		NA	0.22	0.22	
Power monitor		PD	10-30	10-30	mV/W
Temperature sensor	LM35, NTC (10k) or PT100/1000 (please specify)				
Max internal operating temperature			25	25	°C
Options:					
Option 1: Red pilot laser					
C.w. output power			1-3	1-3	mW
Peak wavelength			632+/-15	632 +/-15	nm
Operating voltage			3-5	3-5	V
Water temperature		T	<18°	<18°	°C
Minimum water flux (industrial water, no DI-water)			2	3	l/min
Option 2: Fiber sensor signal			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

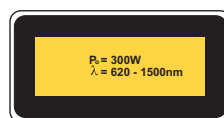
### Important Note

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.

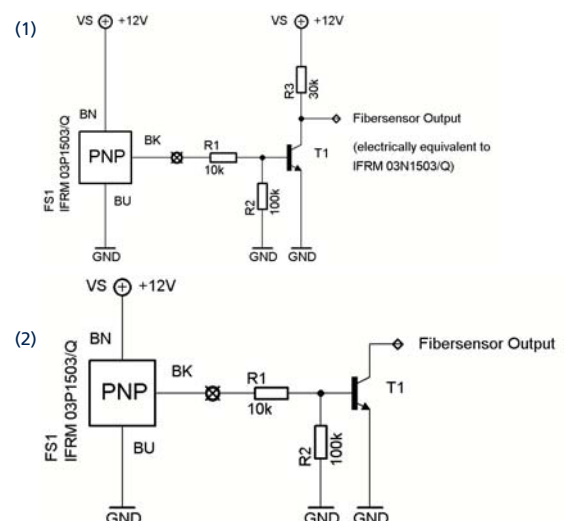
## Absolute Maximum Ratings / General Informations

Parameter	Symbol	Min	Max	Unit
Storage temperature	$T_{max}$	-15	+55	°C
Operating temp. c.w.-operation	$T_{op\ c.w.}$	+5	+35	°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, any other than $\lambda$ of this diode laser (10ns pulse)			20	$\mu J$

## User Safety



To Option 2 fiber sensor:



Your ideas are welcome.