



## LUOcean P4

**LUxxxxCyyy-K Diode Laser**  
**Up to 200W c.w. Operating Power @**  
**Mixed wavelength: 808nm, 940nm or 1470nm**



### Description:

The LUxxxxCyyy-K **LUOcean P4** series offers an optical output power of more than 100W 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
- Burn-in tested single emitters
- SMA905 connector
- Sealed housing
- Power monitor
- Temperature sensor
- Fiber sensor option
- Red pilot laser option

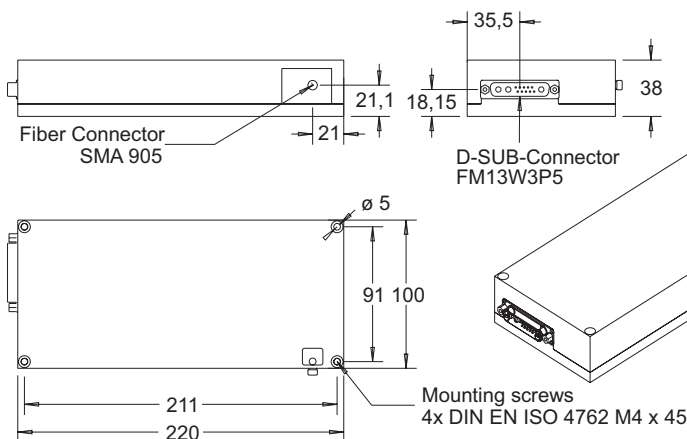
### Benefits:

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

### Applications:

- Pumping
- Illumination
- Medical treatment
- Materials processing

### Module Drawing (Dimensions in mm)

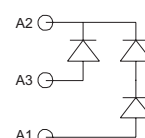
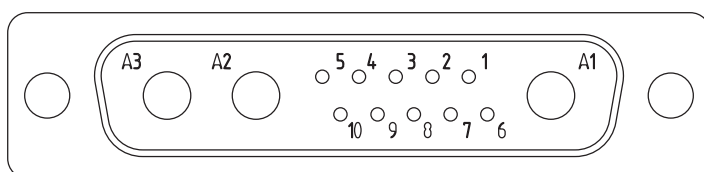


### Pin Connections

Pin	Configuration
1	Fiber Sensor Signal 1
2	Fiber Sensor Signal 2 *
3	Fiber Sensor / Monitor Diode 12V
4	Fiber Sensor (GND) Temp Sensor (GND) Monitor Diode (GND)
5	LM35 Signal or NTC or PT1000
6	Monitor Diode Signal 2 *
7	Monitor Diode Signal 1
8	Pilot Laser (GND)
9	LM35 5V or NTC or PT1000
10	Pilot Laser 3V
A1	808, 960, 1064nm Laser Diode (+)
A2	Laser Diode GND (-)
A3	1470nm Laser Diode (+)

\* = optional

### Connector



**Your ideas are welcome.**

## Electrical and Optical Characteristics

Parameter	Conditions	Min	Typ	Max	Unit
<b>Version 1: 940 + 1470 nm</b>					
Output power	P <sub>op</sub> 940nm (c.w.)		35		W
	P <sub>op</sub> 1470nm (c.w.)		20		W
Peak wavelength (at P <sub>op</sub> )	λ <sub>peak</sub> @ 940nm		940 +/-10		nm
	λ <sub>peak</sub> @ 1470nm		1470 +/-10		nm
Forward current / voltage	I <sub>op</sub> / V <sub>op</sub> @ 940nm		11.5 / 6.3		A / V
	I <sub>op</sub> / V <sub>op</sub> @ 1470nm		8.2 / 8.2		A / V
Threshold current	I <sub>th</sub> @ 940nm		0.7		A
	I <sub>th</sub> @ 1470nm		0.6		A
Fiber core diameter			200		µm
<b>Version 2: 940 + 1470 nm</b>					
Output power	P <sub>op</sub> 940nm (c.w.)		120		W
	P <sub>op</sub> 1470nm (c.w.)		20		W
Peak wavelength (at P <sub>op</sub> )	λ <sub>peak</sub> @ 940nm		940 +/-10		nm
	λ <sub>peak</sub> @ 1470nm		1470 +/-10		nm
Forward current / voltage	I <sub>op</sub> / V <sub>op</sub> @ 940nm		29 / 10.2		A / V
	I <sub>op</sub> / V <sub>op</sub> @ 1470nm		8.2 / 8.2		A / V
Threshold current	I <sub>th</sub> @ 940nm		3.3		A
	I <sub>th</sub> @ 1470nm		0.6		A
Fiber core diameter			600		µm
<b>Version 3: 1470/1532/1550 nm</b>					
Output power	P <sub>op</sub> 1470nm (c.w.)		90		W
Peak wavelength (at P <sub>op</sub> )	λ <sub>peak</sub> @ 1470nm		1470/1532/1550 +/-10		nm
Forward current / voltage	I <sub>op</sub> / V <sub>op</sub> @ 1470nm		13 / 27		A / V
Threshold current	I <sub>th</sub> @ 1470nm		1.2		A
Fiber core diameter			400		µm
<b>Other General Features</b>					
Conversion efficiency	@ 940nm		43		%
	@ 1470nm		27		%
Spectral shift with temp.	λ <sub>T_shift</sub>		0.3		nm / K
Fiber centricity			<10		µm
Numerical Aperture	NA		0.22		
Fiber connector type			SMA905		
<b>Options</b>					
Option 1: Red Pilot laser					
C.w. output power			1-3		mW
Peak wavelength			650 +/-15		nm
Operating voltage			5		V
Option 2: water cooling base plate					
Water temperature		T	<18°		°C
Minimum water flux (industrial water, no DI-water)			1		l/min / (100) W

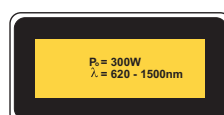
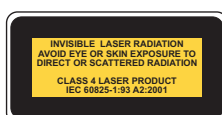
### Important Note

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 <sub>max</sub>	-15	+55	°C
Operating temp. c.w.-operation	T <sub>op c.w.</sub>	+5	+30	°C
Humidity / non condensing atmosphere			90	%
LD Reverse Voltage	V <sub>R, max</sub>		20	V
Max. back reflection of intrinsic pump wavelength output power			20	%
Max. back reflection, any other than λ of this diode laser (10ns pulse)			20	µJ

## User Safety



Your ideas are welcome.