



## LU09xxC380-6 Fiber coupled Diode Laser Up to 380W out of 400µm NA 0.22 fiber



### Description:

The Lumics LU09xxC380-6 series offers an optical output power of up to 380W in c.w. operation from a 400µm NA 0.22 fiber. The device consists of multiple hermetically sealed single emitter laser modules in a rugged industrial package.

Long lifetime is ensured due to laser diode facet passivation and extensive screening of the individual single emitter laser modules. The performance makes it a valuable tool for the highly efficient pumping of high power fiber amplifiers and solid state lasers for material processing with exceptional power densities.

### Features & Functions:

- 915, 940 or 980nm wavelength
- 400µm NA 0.22 fiber
- Water-cooled
- Output Power Control
- Hermetically sealed and tested Single Emitters
- Safety Features
- D80 Connector
- Red Pilot

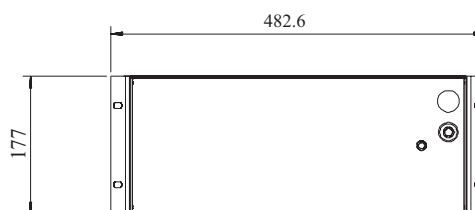
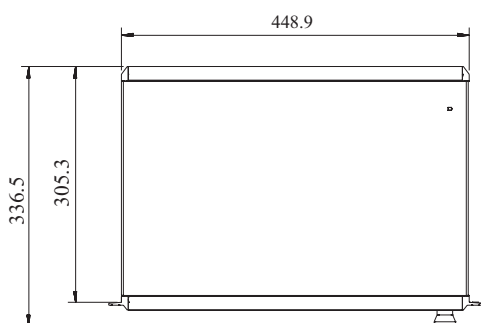
### Benefits:

- Compact design
- Very high Lifetime
- Cost-effective
- All-in-Fiber

### Applications:

- Solid State Laser Pumping
- Material Processing
- Medical Laser Treatment
- Illumination
- Marking

### Module Drawing (dimensions in mm)



### 15-pole Control:

Pin	Function	Pin	Function
2	Fiber Connector 0V (option)	7 / 8	Temp. Sensor for Diode Laser
3	Fiber Connector Sensor +24V output (option)	9	Photo Diode Anode (+)
5	Pilot Laser Anode (+)	11	Photo Diode Cathode (-)
6	Pilot Laser Cathode (-)		

### 2-pole LD-Drive:

Pin	Function
A1	LD Anode (+)
A2	LD Cathode (-)

### Interlock:

Pin
1 / 4



Your ideas are welcome.

## Electrical and Optical Characteristics (Laser specifications at 25°C):

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
C.W. Output Power		Pop		380		W
Operating Current		I <sub>op</sub>		10	10.5	A
Peak Wavelength	LU0915C380-6	λ	905	915	925	nm
	LU0940C380-6	λ	930	940	950	nm
	LU0975C380-6	λ	965	975	985	nm
Spectral Width (FWHM)		Δλ		4	7	nm
Threshold Current		I <sub>th</sub>		600	700	mA
Operating Voltage		V <sub>f</sub>		106		V
Wavelength Tuning vs. Temperature		Δλ / T		0.35		nm/K
Wavelength Tuning vs. Operating Current		Δλ / I		2		nm/A
Monitor Diode				0.5 - 20		μA/W
Temperature Sensor		NTC		10		kOhm
Operating Temperature / water temperature		Top	15		35	°C
Cooling water (1)				5		l/min

### Output Fiber

Length of Fiber Bundle (please specify)				2		m
Core Diameter of Fiber				400		μm
Numerical Aperture		NA		0.22		
Fiber Cable Bend Radius			200			mm
D80 Connector on Fiber end						

### Option - D80 Connector on Case

Fiber Core Diameter				400		μm
Numerical Aperture		NA		0.22		
Fiber Connector Sensor Signal Voltage				24 / 0		V

### Options

#### 1) Red Pilot Beam

C.W. Output Power	at 5V		1.0	3		mW
Peak Wavelength	as specified	625	650	660		nm
Spectral Width (FWHM)			1	2		nm
Operating Voltage				5		V

#### 2) Power Supply (separate unit)

C.w. operation and pulsed operation						
Min rise and fall time	Output Voltage			50		μsec
Interface				RS232		
Programming analog		DC		0 - 5		V
Dimensions	3 HU 19 inch rack mount	HxWxD		133x483x337		mm

#### Remark:

(1) Industrial cooling water is ok to use, DI water is not recommended. Min. particle size 0.1mm  
8mm OD / 6mm ID water pipes are applied

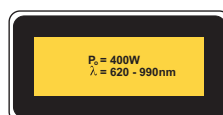
## Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature (free of water)	T <sub>max</sub>	-20	60	°C
Operating Case Temp.	Top, case	10	40	°C
LD Forward Current	I <sub>op, max</sub>		10.5	A
LD Reverse Voltage	V <sub>R, max</sub>		2	V
Maximum Power Red Pilot Beam	P <sub>max, red LD</sub>		3	mW

#### 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



Your ideas are welcome.