



LUxxxxDyyy Medical Diode Laser Dual wavelength, 808nm, 980nm, or 1064nm



Description:

The Lumics Medical Diode Laser series offers OEM integrators an excellent product to manufacture state-of-the-art end user laser systems. The easy integration and safe use of these medical laser components give the chance to be cost-efficient in development and manufacturing. Equipped with several accessories and features the Lumics diode lasers comply with CE, FDA & ROHS requirements. Lumics warranties highest reliability single emitter technology through careful design, extensive burn-in, long life-time & thermal testing.

Features & Functions:

- 808nm + 980nm or 808nm + 1064nm
- Red pilot
- Monitor photodiodes
- Fiber sensors
- Thermistor
- 3 single, burn-in tested laser diode emitters
- Sealed housing
- 200µm NA 0.22 fiber
- SMA connector
- Exchangeable window

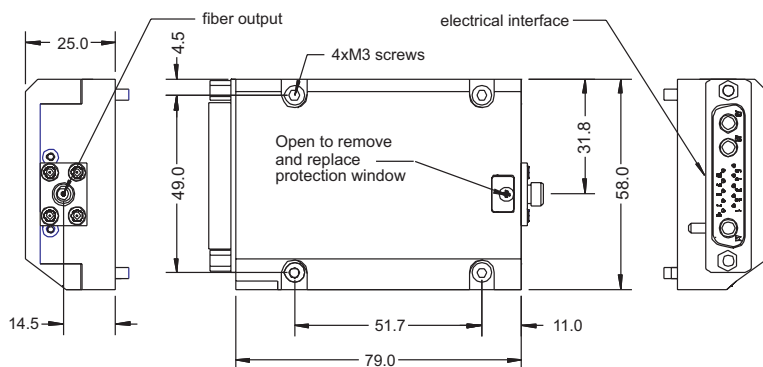
Benefits:

- FDH-required sensors
- Ultra long lifetime
- OEM quantities
- Passive cooling

Applications:

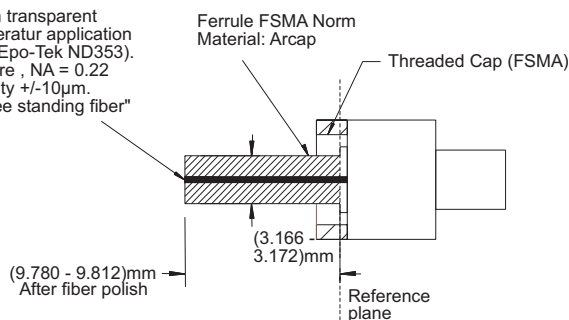
- Dental
- Dermatology
- Therapeutic
- Veterinary

Module Drawing (Dimensions in mm)



F-SMA Connector

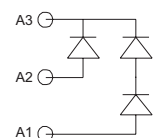
Fiber fixed with transparent and high temperature application epoxy (e.g.: Epo-Tek ND353).
Min. 200µm core, NA = 0.22
Max. eccentricity +/-10µm.
"Do not use free standing fiber"



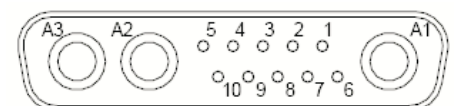
Pin Connections

Pin	Configuration
1	Fiber Sensor Signal 1
2	Fiber Sensor Signal 2 *
3	Fiber Sensor 12V
4	Fiber Sensor (Gnd)
	LM35 (GND)
	Monitor Diode (Gnd)
5	LM35 Signal
6	Monitor Diode Signal 2 *
7	Monitor Diode Signal 1
8	Pilot Laser (Gnd)
9	Monitor Diode 5V
10	Pilot Laser 3V
A1	808nm Laser Diode (+)
A2	980 or 1064nm Laser Diode (+)
A3	Common Laser Diode GND (-)

* = optional



Connector



Your ideas are welcome.


Electrical and Optical Characteristics

Parameter	Conditions	Min	Typ	Max	Unit
Version 1: 808 + 980 nm					
Output Power	P _{op} 808nm (c.w.)		14		W
	P _{op} 980nm (c.w.)		10		W
Peak Wavelength (at P _{op})	λ _{peak} @ 808nm	798	808	818	nm
	λ _{peak} @ 980nm	970	980	990	nm
Spectral Width (FWHM)	λ _{rms} @ 808 and 980nm		3		nm
Forward Current / Voltage	I _{op} / V _{op} @ 808nm		9.5 / 3.4		A / V
	I _{op} / V _{op} @ 980nm		15.5 / 1.8		A / V
Threshold Current	I _{th} @ 808nm		1.8		A
	I _{th} @ 980nm		1.1		A
Version 2: 808 + 1064 nm					
Output Power	P _{op} 808nm (c.w.)		14		W
	P _{op} 1064nm (c.w.)		9		W
Peak Wavelength (at P _{op})	λ _{peak} @ 808nm	798	808	818	nm
	λ _{peak} @ 1064nm	1054	1064	1074	nm
Spectral Width (FWHM)	λ _{rms} @ 808 and 1064nm		3		nm
Forward Current / Voltage	I _{op} / V _{op} @ 808nm		9.5 / 3.4		A / V
	I _{op} / V _{op} @ 1064nm		14 / 1.8		A / V
Threshold Current	I _{th} @ 808nm		1.8		A
	I _{th} @ 1064nm		1.1		A
Other General Features					
Conversion Efficiency			40		%
Spectral Shift with Temp.	λ _{T_shift}		0.3		nm / K
Fiber Core Diameter			200		μm
Fiber Centricity			<10		μm
Numerical Aperture	NA		0.22		
Fiber Connector Type			SMA905		
Pilot Beam Output Power				1	mW
Pilot Beam Wavelength		630	635	640	nm
Pilot Beam Operating Voltage			3	3.3	V
Pilot Beam Operating Current			15	20	mA
Power Monitor Operating Voltage			5		V
Power Monitor Signal Voltage			0 - 4		V
Fiber Detection Sensor Operating Voltage			12		V
Fiber Detection Sensor Signal Voltage			12 / 0		V
Temperature Sensor / Energy Constant			LM35, or NTC 10k, 3988K		

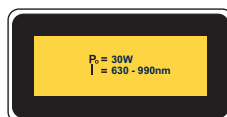
Important Note:

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.

General Parameters / Accessories

Parameter	Symbol	Min	Typ	Max	Unit
Storage Temperature	T _s	0		50	°C
Operation Temperature	T _{op}	15		35	°C
Humidity / Non-condensing Atmosphere				90	%
Recommended Thermal Heatsink Resistance				0.1	K / W
Weight			179		g
Compliance			CE, FDA, ROHS		
Standard Accessories					
Interface Connector			10W3 Female		
Mounting Screws / metric			4 x M3 x 10		
Further Options					
2nd Monitor Diode / 2nd Fiber Detection Sensor (Please ask for quotation if needed)					
Optical Fiber Patchcord with SMA Connectors  from our partner FCC GmbH, www.fibercableconnect.de					
Laser diode drivers for each individual wavelength (on request)					

User Safety



Your ideas are welcome.