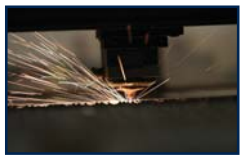
Lumics






LU1470C015-4

Fiber coupled Diode Laser

Up to 15W operation power

Description:

The LU1470C015-4 series offers an optical output power of 15W in c.w. or pulsed mode operation from a 400µm core diameter fiber. The diode laser unit is powered air cooled in a 3 HU 19 inch rack mount Integrated TEC cooler and a power supply are optionally offered. The device consists of hermetically sealed single emitter modules in a rugged industrial package. Long lifetime is ensured due to extensive burn-in testing and screening of the individual single emitter. The performance makes it a valuable tool for various apllications.

Features & Functions:

- Wavelength 1470nm
- Hermetically sealed and tested single emitters
- 400µm, NA 0.22 fiber
- Powered air cooled
- Temperature sensor
- Fiber detectors
- Power monitor
- Red pilot laser
- turn-key option
- TEC cooler option

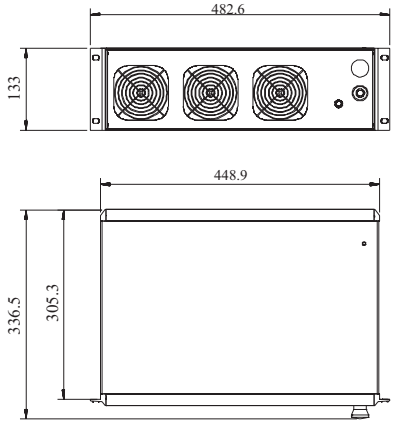
Benefits:

- Custom Interfaces
- Ultra long Lifetime
- Cost effective
- High Efficiency

Applications:

- Illumination
- Veterinary
- Medical

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

Ventilator / 24V DC Supply:

Pin	Function
1	+24V DC
2	0V

Your ideas are welcome.

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
C.W. Output Power		P_{op}		15		W
Operating Current		I_{op}		7.2	8	A
Peak Wavelength	c.w. op.	λ	1455	1470	1485	nm
Spectral Width (FWHM)		$\Delta\lambda$		5	10	nm
Threshold Current		I_{th}		800		mA
Operating Voltage		V_f		15	22	V
Wavelength Tuning vs. Temperature		λ / T		0.35		nm / K
Wavelength Tuning vs. Operating Current		λ / I		1		nm / A
Power monitor diode				0.3-20		µA / W
Temperature sensor		NTC		10		kOhm
Output Fiber Options						
Standard - Optical Fiber Connector SMA905 on Module						
Including Fiber Connector Sensor						
Core Diameter of Output Fiber				400		µm
Numerical Aperture		NA		0.22		
Fiber Connector Sensor Operating Voltage				12		V
Fiber Connector Sensor Signal Voltage				12/0		V
Option 1) - Red Pilot Beam						
C.W. Output Power (1)		at 5V		1.0	1.5	mW
Peak Wavelength		as specified	625	650	660	nm
Spectral Width (FWHM)				1	2	nm
Operating Voltage				5		V
Option *2) - Power Supply (integrated, see below)*						
Power		DC		200		W
Input Voltage		AC		100 - 230		VAC
Programming analog		DC		0 - 5		V
Programming via RS 232						
Dimensions	3 HU 19 inch rack mount WxDxH			442 x 336 x 133		mm
Option 3) - TEC Cooler (integrated on powered air cooler)						
High power Peltier element for adjustable temperature in range				10 to 30		°C
TEC driver is provided when ordered in combination with power supply in option 2						

Option 2:
Diode Laser with integrated driver

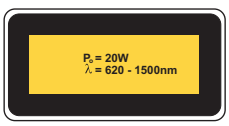
Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Storage Temperature	Tmax	0	40	°C
Operating Temp. (sensor)	Top,	10	35	°C
LD Forward Current	Iop, max		9	A
LD Reverse Voltage	$V_{R, max}$		2	V
Maximum Power Red Pilot Beam	$P_{max, red\ LD}$		1.5	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



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