



LU1470C015-C Diode Laser Source Up to 15W Operation Power @ 1470nm



Description:

The LU1470C015-C series offers an optical output power of 15W in c.w. operation from a 400µm core diameter fiber. 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 applications.

Features & Functions:

- Wavelength 1470nm
- Hermetically sealed and tested single emitters
- 400µm, NA 0.22 Fiber
- SMA905 Connector
- Temperature Sensor
- Fiber detectors
- Power monitor
- Red pilot laser

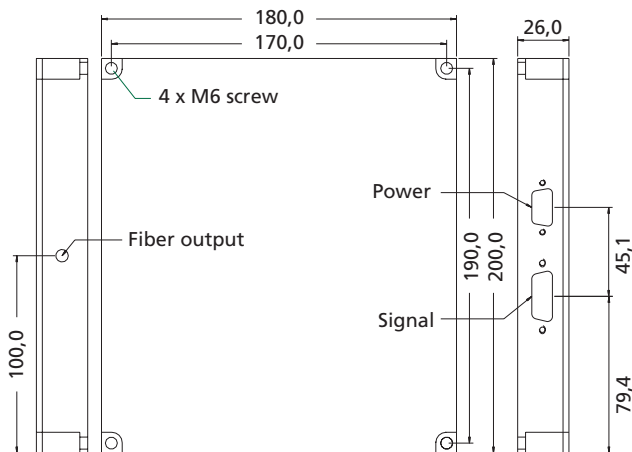
Benefits:

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

Applications:

- Illumination
- Veterinary
- Medical

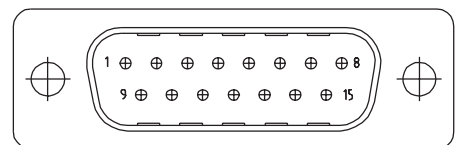
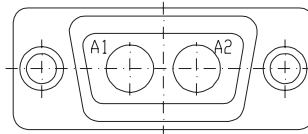
Module Drawing (Dimensions in mm)



Pin Connections

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

2-pole Power Connector



D-Sub 15-pole Signal Connector

Pin	Function	Pin	Function
1	Fiber Connector V+*	2	Fiber Connector Gnd*
3	Fiber Connector Sensor 1 Output*	4	Fiber Connector Sensor 2 Output*
5	Pilot Laser +*	6	Pilot Laser -*
7 / 8	Temp. Sensor 1 for Diode Laser	9	Photo Diode 1 +
10	Photo Diode 2 +*	11	Photo Diode Gnd
12 / 13	Temp. Sensor for Fiber Connector*	14/15	Temp. Sensor 2 for Diode Laser*

* = Option

Your ideas are welcome.

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		$\mu A / W$
Temperature sensor		NTC		10		kOhm

Output Fiber

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 - Water Cooling Plate

Water Temperature	T	+10	+40	°C
Water Quality	Industrial Water, no DI-water, filtered particle size <0.1mm			

Remark:

(1) Do not exceed 1.5 mW Optical Output Power for the Red Pilot Beam.

Absolute Maximum Ratings

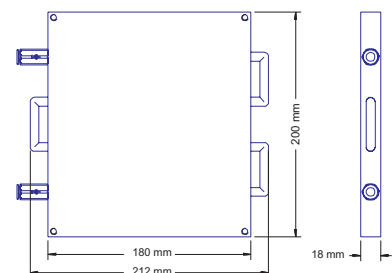
Parameter	Symbol	Min	Max	Unit
Storage Temperature	T_{max}	-20	+60	°C
Operating Case Temp.	$T_{op, case}$	+10	+30	°C
LD Forward Current	I_{op}		10	A
LD Reverse Voltage	$V_{R, max}$		2	V

Important Note:

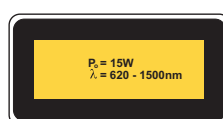
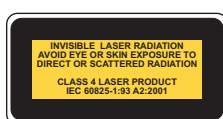
Read and carefully follow operating manual instructions. Especially - whenever power supply is switched on or off, always disconnect from laser module. See manual for details. Uncontrolled on / off switching may cause spikes and result in fatal device damage.

To Option 2:

Dimensions of water cooling plate (mm)
Water flow rate should be >1.5l/min.



User Safety



Your ideas are welcome.