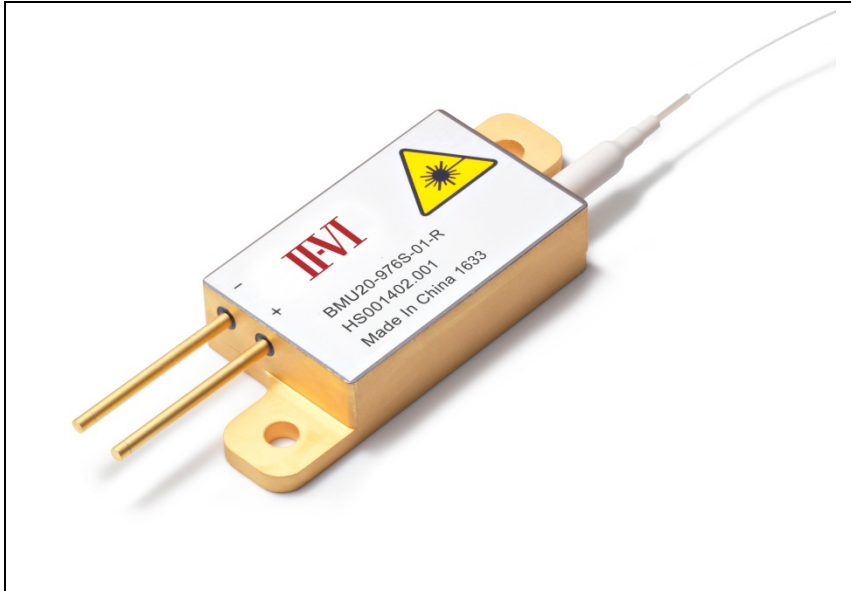


# 15W/20W 976nm Wavelength-stabilized Uncooled Multimode Laser Diode Module


BMU15/20-976S-01-R



II-VI's new multimode single emitter based laser diode modules BMU15/20-976S-01-R have been designed to provide a wavelength-stabilized optical design that significantly extends the wavelength stability performance over operating temperature and output power dynamic ranges, and to enable ultrafast fiber lasers to operate with shorter pulses and achieve higher performance stability and improve their productivity as well.

The module features a new generation of multimode laser diodes with E2 front mirror passivation that prevents Catastrophic Optical Damage (COD) to the laser diode facet. With the built-in feedback protection filter the laser diodes inside module are isolated from harmful feedback light of fiber laser wavelength.

## Features:

- Single emitter based laser diode module
- Output power up to 20W
- Narrow linewidth of <math><0.4\text{nm}</math>
- 0.15NA 105 $\mu\text{m}$  core multimode optical fiber with 0.12NA under-filling
- Hermetically sealed 2-pin package with floating anode/cathode
- High reliability
- RoHS compliant 

## Applications:

- Ultrafast fiber laser pumping
- Supercontinuum
- Medical
- Analytical
- Direct applications

## Optical Characteristics

Conditions unless otherwise stated:

Parameters at 25°C heat sink temperature and use of a thermal interface material rated for a thermal contact resistance of less than 1.0cm<sup>2</sup> K/W. Optical fiber with 105µm core diameter and 0.15NA

Parameter	Min	Typ	Max	Unit	Conditions
CW Output Power BMU15-976S-01-R BMU20-976S-01-R	15 20	20 23		W	
Centre Wavelength [1]	975.5		976.5	nm	
Wavelength Stabilized Current Range	7.5		10	A	
Spectral Width (FWHM)			0.4	nm	
Threshold Current		0.7		A	
Wavelength Temperature Coefficient			0.02	nm/°C	
Wavelength Current Coefficient		0.01	0.03	nm/A	
Operating Current BMU15-976S-01-R BMU20-976S-01-R			10	A	
Operating Voltage BMU15-976S-01-R BMU20-976S-01-R			5.4	V	
Wallplug Efficiency		48		%	

**Note 1 - Customized wavelength available upon the request**

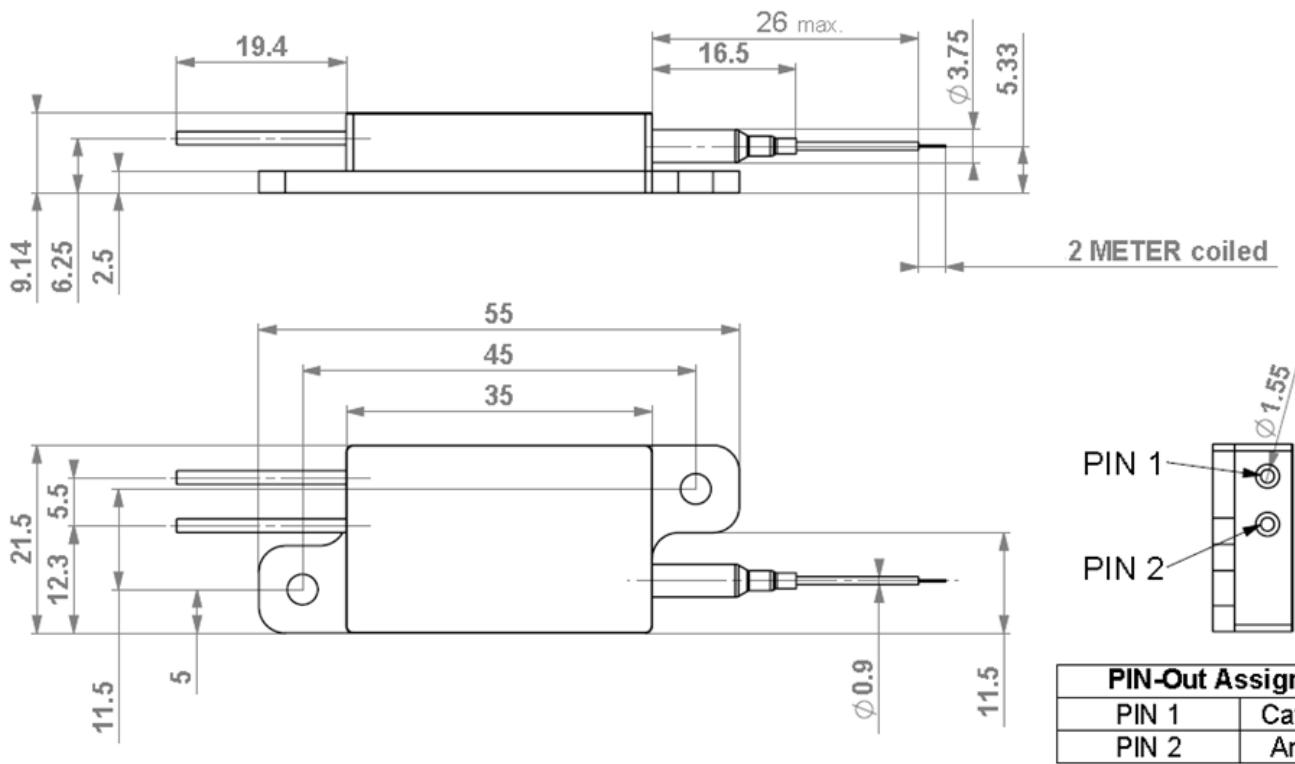
## Absolute Ratings

Parameter	Min	Typ	Max	Unit	Conditions
ESD	–		500	V	HBM, C=100pF, R=1.5 kOhm
Storage temperature	-40		85	°C	Non-condensing
Lead soldering temperature	–		320	°C	
Lead soldering time	–		10	Sec	
Operating case temperature	15		60	°C	Reliability impacted if operating point deviates from reference condition
Relative humidity	5		85	%	Non-condensing
Fiber bend radius	25			mm	

**Fiber Specification**

Parameter	Min	Typ	Max	Unit	Conditions
Buffer diameter	230	250	270	μm	
Cladding diameter	123	125	128	μm	
Core diameter	102	104	106	μm	
Numeric aperture	0.13	0.15	0.17		
NA Filling		0.1	0.12	NA	>90% power content, 10A
Pigtail Length	1.8	2	2.5	m	

**Package Dimensions (mm)**



## RoHS Compliance



II-VI is fully committed to environment protection and sustainable development and has set in place a comprehensive program for removing polluting and hazardous substances from all of its products. The relevant evidence of RoHS compliance is held as part of our controlled documentation for each of our compliant products. RoHS compliance parts are available to order, please refer to the ordering information section for further details.

## Ordering Information:

BMU15-976S-01-R	15W 976nm Wavelength-stabilized Multimode Laser Diode Module with 0.15NA fiber
BMU20-976S-01-R	20W 976nm Wavelength-stabilized Multimode Laser Diode Module with 0.15NA fiber

## Contact Information

[www.ii-vi-suwtech.com](http://www.ii-vi-suwtech.com)

## Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by II-VI SUWTECH before they become applicable to any particular order or contract. In accordance with the II-VI SUWTECH policy of continuous improvement specifications may change without notice. Further details are available from any II-VI SUWTECH sales representative.



THIS PRODUCT COMPLIES WITH 21CFR 1040.10



REFERENCE IEC 60825-1 Edition 2.0



Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.