

Red/Green/Blue (RGB) Fiber Coupled Laser Source



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The Fiber Pigtailed Red-Blue-Green (RBG) Laser features low noise, high efficiency and high reliability. Output fiber can be either single mode or multimode. The laser emits three colors that match the three light-sensitive photoreceptor cells in the human eye, making the RBG laser ideal for representation and display. The RBG laser is capable of generating a fully visual color spectrum by stimulating the three types of cone cells inside the eye simultaneously.

Features

- Compact
- Ultra-Stable
- Low Cost
- High Reliability
- High Efficiency

Applications

- Microscope
- Instrumentations
- Sensors

Specifications

Parameter	Min	Typical	Max	Unit
Number of colors		3		
Wavelengths		450 / 520 / 660		nm
Max output power (each wavelength)		> 10		mW
Output power adjustment (each wavelength)		Manual *		
Connector		FC/PC		
Fiber		105/125		μm
Fiber NA		0.22		

* USB control version with GUI is available per request.

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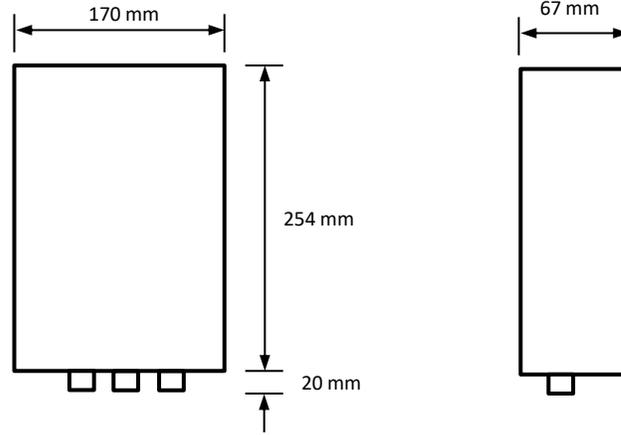
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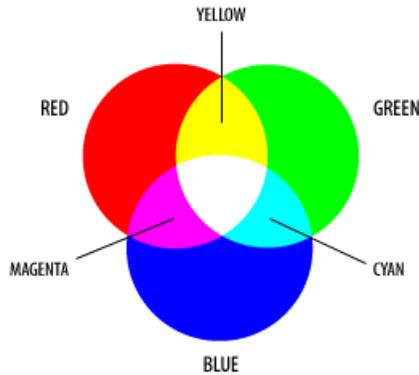
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Mechanical Dimension



*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Function Illustration



Ordering Information

Prefix	Package	1 Color	2 Color	3 Color	Laser Type	Fiber Type	Optical Power	Connector
RBGL-	Standard = 1 Special = 0	450nm = 1 Special = 0	520nm = 1 Special = 0	638nm = 1 Special = 0	FP = 1 Special = 0	SM480 = 1 50/125 = 5 60/125 = 6 105/125 = 7 Special = 0	< 5mW = 1 <10mW = 2 <20mW = 3 <30mW = 4 Special = 0	FC/PC = 1 FC/APC = 2 LC = 3 ST = 4 SC = 5 SMA = 6 Special = 0

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Application Notes

Fiber Core Alignment

Note that the minimum attenuation for these devices depends on excellent core-to-core alignment when the connectors are mated. This is crucial for shorter wavelengths with smaller fiber core diameters that can increase the loss of many decibels above the specification if they are not perfectly aligned. Different vendors' connectors may not mate well with each other, especially for angled APC.

Fiber Cleanliness

Fibers with smaller core diameters ($<5 \mu\text{m}$) must be kept extremely clean, contamination at fiber-fiber interfaces, combined with the high optical power density, can lead to significant optical damage. This type of damage usually requires re-polishing or replacement of the connector.

Maximum Optical Input Power

Due to their small fiber core diameters for short wavelength and high photon energies, the damage thresholds for device is substantially reduced than the common 1550nm fiber. To avoid damage to the exposed fiber end faces and internal components, the optical input power should never exceed 20 mW for wavelengths shorter 650nm. We produce a special version to increase the handling by expanding the core side at the fiber ends.