激光显示

RGB光纤耦合激光模块

RGB Fiber-Coupled Laser Module



N5



N20



Q40

本产品为采用R,G,B三种波长，内置光学系统高效耦合技术的光纤输出半导体激光器。它将半导体激光芯片的电光转换效率与光纤的柔性传输优势完美结合，为客户提供即插即用、稳定可靠的紧凑型激光光源。

主要用途有工业激光，医疗设备，机器视觉等。也可搭配镭创高科线激光镜头，输出高均匀窄线宽线光斑，可应用于铁路检测，矿石分选等应用。

This product is a fiber coupling semiconductor laser that adopts three wavelengths (R, G, B) and incorporates high-efficiency coupling technology with built-in optics. It perfectly combines the high electro-optical conversion efficiency of semiconductor laser chips with the flexible transmission advantages of optical fibers, providing customers with a plug-and-play, stable, reliable and compact laser light source.

Common applications include industrial lasers, medical equipment, machine vision, etc. It also can be used with corresponding line laser lenses from Jiangsu Litronics to generate uniform and fine laser line spot, suitable for applications such as railway inspection and ore sorting.

产品特点

RGB纯激光光源；
RGB pure laser light source;

10000小时内光衰减低于30%，持续稳定输出；
Light attenuation of less than 30% within 10,000 hours for continuous and stable output;

无运动器件，可用于高振动场景；
No moving parts, suitable for high-vibration scenarios;

产品结构密封，防尘、防雾，使用环境不受约束。
Hermetically sealed product structure, dust and fog resistant, with no restrictions on the operating environment.

应用场景

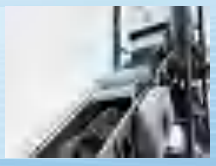
工业补光
Industrial Lighting



铁路检测
Railway Inspection



矿石分选
Ore Sorting



产品参数

产品型号Product Model		LTH-RGB-N5	LTH-RGB-N20	LTH-RGB-Q40
波长(nm) Wavelength(nm)		R：632-640 Typ.636 G：518-532 Typ.525 B：445-455 Typ.450		
光功率(W) @25℃ Optical Power(W) @25℃	R	≥1.3	≥3.5	≥7.5
	G	≥1.3	≥4.5	≥9
	B	≥4	≥8	≥21
最小光纤芯径(μm) Minimum Fiber Core Diameter (μm)		100	300	400
NA		0.15		
光纤接口 Fiber Connector		SMA905/FC		
可搭配光纤类型 Available Fiber Types		普通/矩形匀化/渐变匀化/绕模匀化 Standard / Rectangular Homogenizing / Gradient Homogenizing / Mode Scrambling Homogenizing		
可搭配镜头扇角角度(°) Available Lens Fan Angles(°)		25/45/55/60/75/90/110		
线激光应用典型最小线粗 @1m Typical Minimum Line Width for Line Laser Application @1m		3mm		
驱动 Drive	R	2.2V 1.8A（两路） 2.2V 1.8A (2 channels)	10V 1.55A	17.2V 1.35A
	G	4.4V 1.9A	8.8V 1.9A（两路） 8.8V 1.9A (2 channels)	20.6V 2.4A
	B	4.3V 3.5A	8.6V 3A	15.6V 3.5A
	RGB串联驱动 RGB Series Drive	11.5V 1.8A	/	/
电功率(W) Electrical Power(W)	单路全开额定总功率 Full single-channel rated total power	32	58	128
	RGB串联驱动功率 RGB series drive power	24	/	/
外形尺寸（mm） Dimensions （mm）		70*37*19	153*60*25	105*61*47
重量（g） Weight （g）		95	450	450
存储温度（℃） Storage Temperature （℃）		-40~+80		
工作温度（℃） Operating Temperature （℃）		-20~+40		
工作湿度 Operating Humidity		10~85%(无冷凝) 10~85% (non-condensing)		
典型寿命（h） Typical Lifetime （h）		20000		