

Micro Laser Modules

For a wide range of applications

Customized with precise alignment, adaptable wavelength and power.

Your Benefits

- **Customized to your application:** Selected laser sources and wavelengths.
- **Experienced partner:** Decades of experience in dealing with micro-optical and mechanical systems.
- **Single partner:** From design to prototyping to volume production, entire process under one roof.
- **Operational excellence:** Most recent technologies from adhesive bonding to alignment.



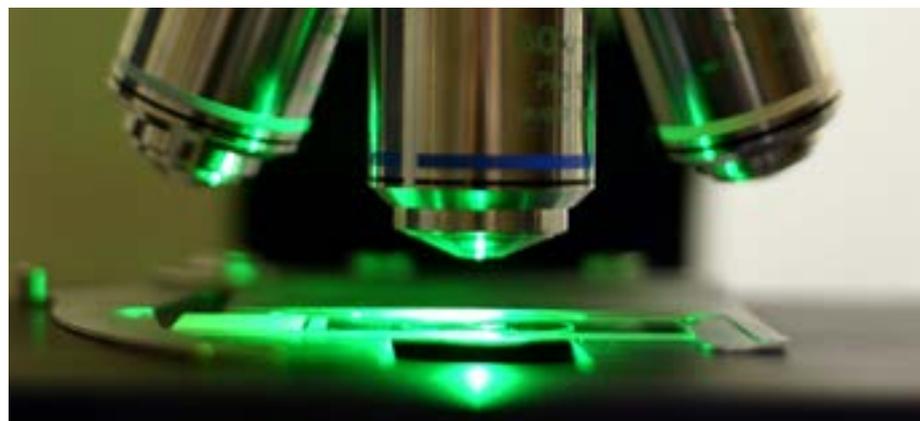
Laser Module with free space propagation

Technology Expertise

- Free space beam shaping
- Single-mode or multi-mode fiber coupling
- Active polarization alignment
- Light combining with color coordinate control
- Adhesive bonding of active and passive electro-optical and optical components
- Active positioning and bonding of optical components
- Power control by closed loop architecture



Micro Laser Module fiber-coupled



Applications

- Microscopy
- Flow Cytometry
- Holography
- Head-up Displays

Micro Laser Modules

Example technical specifications for RGBeam-Laser

Optical parameters	Free space propagation (FS)			Single-mode optical fiber (SM)		
	Laser 1	Laser 2	Laser 3	Laser 1	Laser 2	Laser 3
Laser source	Laser diode			Laser diode		
Typical wavelength (RGB)	R: 638 nm	G: 520 nm	B: 450 nm	R: 638 nm	G: 520 nm	B: 450 nm
Laser class	3B			3B		
Numerical aperture	n/a			0.12		
Typical optical power from fiber end (r/g/b)	n/a			60 mW	30 mW	40 mW
Typical optical power from output beam	90 mW	80 mW	70 mW	n/a		
Spot diameter at 1m distance $1/e^2$	1.2 mm	1.1 mm	1.1 mm	n/a		
Typical beam divergence approximately	0.6 mrad	0.4 mrad	0.35 mrad	n/a		
Beam alignment accuracy	0.3 mrad			n/a		
Luminous flux (6500K)	up to 40 lm			up to 20 lm		
Electrical parameters	typical/max	typical/max	typical/max	typical/max	typical/max	typical/max
Operating current in mA	R: 165/200	G: 200/240	B: 100/165	R: 165/200	G: 200/240	B: 100/165
Mechanical parameters	Free space propagation (FS)			Single-mode optical fiber (SM)		
Dimensions length x width x height excl. FCB	22.5 mm x 13.5 mm x 9 mm			30 mm x 15.5 mm x 9 mm		
Operating temperature	between +15 °C and +30 °C			between +22 °C and ±1 °C operating on TEC		
Fiber connector	n/a			FC/PC or FC/APC		
Fiber type	n/a			Single-mode or single-mode polarisation maintaining fiber		
Weight	3.5 g					
Storage temperature	- 10°C to + 60 °C					

Customized designs available upon request.
Contact us for Whitelight and LED solutions.