

FISBA READYBeam™

Compact multicolor laser source



The FISBA READYBeam™ is the answer to customers increasing demand for compact, powerful and reliable multicolor laser sources which easily integrate into existing set ups. The module is available in four primary configurations: READYBeam™ bio 1 and bio 2, and READYBeam™ ind 1 and ind 2.

Areas of applications

Flow Cytometry

Fluorescence Microscopy

DNA Sequencing

Microfluidics

Projection

Display & Holography

Advantages

The development of diode emitters towards increasing power and variety, facilitated their usage in a rapidly growing field of scientific and industrial applications. The replacement of one or several bulky gas and solid state lasers with just a single compact module reduces complexity of:

- **Alignment**
- **Integration**
- **Operation**

Key features

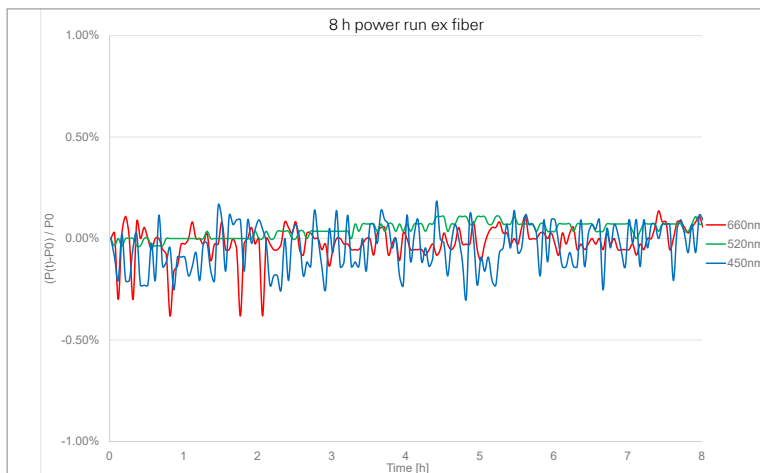
- Turnkey solution with standard RS 485 interface
- Embedded electronics and driver
- Embedded thermoelectric regulation (TEC)
- Fiber coupled, prealigned collinear emission
- Single mode, polarization maintaining
- Individual control of each color
- Complete dark state in fluorescence applications
- Digital, analog and mixed mode modulation capabilities
- Software included

FISBA READYBeam™

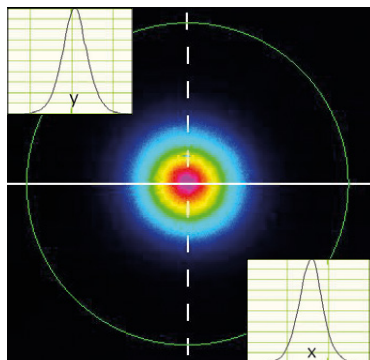
Technical specifications

Laser power stability

The prealigned optomechanical architecture of the FISBA READYBeam™ in combination with its TEC regulation, results in a stable single mode fiber output over time.



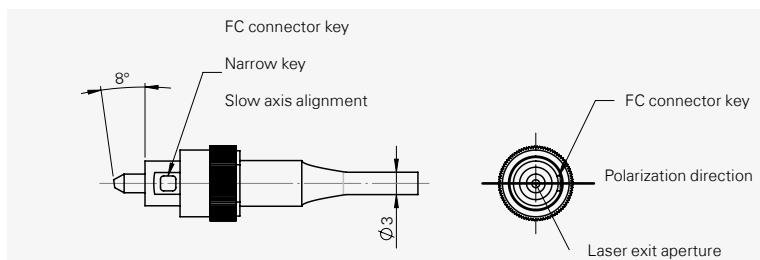
Beam quality



TEM00 single mode fiber beam profile

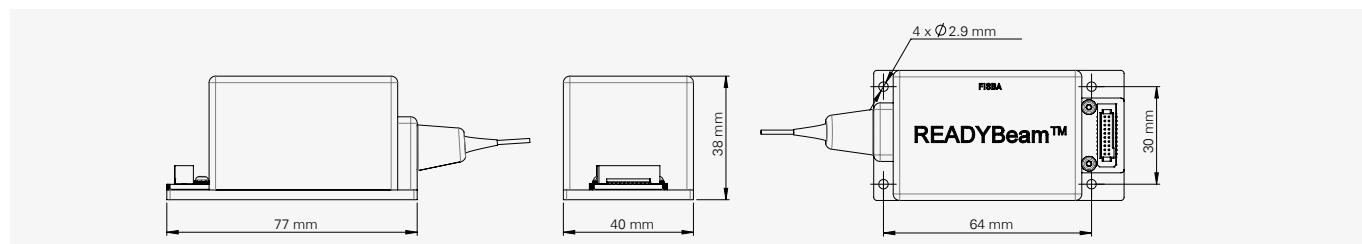
- Minimum dispersion
- Minimum attenuation
- Control about the polarization state
- Gaussian spot and illumination distribution

APC connector



Typical 10 dB improvement in return loss

Technical drawing



FISBA READYBeam™

Technical specifications

| | Wavelength ¹⁾ | | | | | |
|--|---|--------|--------|--------|--------|--------|
| | 405 nm | 450 nm | 488 nm | 520 nm | 638 nm | 660 nm |
| FISBA READY Beam™ bio 1 1006061 | x | | x | | x | |
| FISBA READY Beam™ bio 2 1008062 | | | x | x | x | |
| FISBA READY Beam™ ind 1 1006062 | | x | | x | | x |
| FISBA READY Beam™ ind 2 1007773 | | x | | x | x | |
| Output power calibrated values ²⁾ | 40 mW | 40 mW | 30 mW | 30 mW | 40 mW | 40 mW |
| Power stability 8 h | < 2% | | | | | |
| Fiber type | SM/PM, 3 µm core, end capped, APC Connector | | | | | |
| Fiber cable length | 1 m | | | | | |
| Polarisation ratio ³⁾ | typ. 17 dB | | | | | |
| Spatial mode | TEM 00 | | | | | |
| M2 | < 1.1 | | | | | |
| Optical noise RMS, 20Hz – 20MHz | typ. 0.2, max. 0.5 % | | | | | |
| Laser operation modes | CW, modulated | | | | | |
| Digital modulation | TTL input | | | | | |
| Digital modulation frequencies | 1 MHz | | | | | |
| Digital rise time 10 – 90% | 11 ns | | | | | |
| Digital fall time 90 – 10% | 11 ns | | | | | |
| Analog modulation bandwidth | 0 – 3.3 V input voltage | | | | | |
| Analog modulation frequencies | 20 KHz | | | | | |
| Analog rise time 10 – 90% | 12 µsec | | | | | |
| Analog fall time 90 – 10% | 12 µsec | | | | | |
| Laser safety class | 3B | | | | | |
| Max. storage temperature range | - 10° C to + 60° C | | | | | |
| Operational temperature range | + 15° C to + 40° C | | | | | |
| Power consumption | typ. 5 W, max. 12 W | | | | | |
| Temperature stabilization | internal TEC controlled | | | | | |
| Communication interface | RS 485 | | | | | |

¹⁾ Laser center wavelength tolerances: **405**: 400 – 410nm ; **450**: 440 – 460nm; **488**: 486 – 490nm; **520**: 515 – 530 nm; **638**: 632 – 643nm; **660**: 655 – 665nm

²⁾ linear calibrated power range from 10% to 100% (max)

³⁾ min. 13dB, max. 26 dB

FISBA READYBeam™

READY for the future

Model numbers

| | |
|-------------------------|---------|
| FISBA READY Beam™ bio 1 | 1006061 |
| FISBA READY Beam™ bio 2 | 1008062 |
| FISBA READY Beam™ ind 1 | 1006062 |
| FISBA READY Beam™ ind 2 | 1007773 |

Explore our compact multi-color laser modules

fisba.com/readybeam

